PLANTÆ

ASIATICÆ RARIORES.

VOLUME III.

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PLANTÆ
ASIATICÆ RARIORES;

OR,

DESCRIPTIONS AND FIGURES
OF A SELECT NUMBER OF
UNPUBLISHED EAST INDIAN PLANTS,

BY

NATHANIEL WALLICH, M.&PH.D.

KNIGHT OF THE ROYAL DANISH ORDER OF DANNEBROG:

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IN THE BENGAL MEDICAL SERVICE OF THE HONOURABLE EAST INDIA COMPANY, AND SUPERINTENDANT OF THE BOTANIC GARDEN AT CALCUTTA.

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POSTSCRIPT.

IN bringing my Work to a close, I have but to express my unaffected sense of its many defects, for which the rapidity of its execution, and my other occupations, are the only apologies I can offer.

To those eminent men who have honoured me with their assistance during its progress, I wish again briefly to express my obligations, as its only permanent claims to distinction will rest upon their valuable contributions.

To Robert Brown, Esq., whose acquirements in botanical science are only equalled by his profound philosophical sagacity and his unrivalled skill as a microscopical observer, I am indebted for several admirable elucidations of genera. The kind assistance, in resolving my doubts and correcting my errors, which he has liberally rendered on all occasions, and especially the friendship with which he has honoured me, claim from me the heartfelt expression of my deepest gratitude.

To Professor Nees von Esenbeck, the learned President of the Academia Naturæ Curiosorum, I have to express my thanks for his most laborious and admirable monographs of Laurineæ and Acanthaceæ.

To Professor von Martius, the worthy successor of Humboldt in the investigation of the natural history of South America, and equally in the splendour and interest of the works illustrative of his labours in that country, I am indebted for the monograph of the family of Restiaceæ, and the description and plates of two species of Eriocaulon and of Chamærops Martiana.

To Professor Meisner I cordially acknowledge my obligations for his elaborate synopsis of Polygoneæ, and the drawing of Polygonum Emodi.

To Professor Lindley, to whom I early expressed my thanks for his assistance in the general arrangement and execution of this work, and which has been most promptly and lavishly extended to its close, I am especially indebted for various drawings and descriptions interspersed throughout it.

To my most kind and esteemed friend George Bentham, Esq., I owe the synopsis of Labiatæ, a complete monograph of which family that excellent botanist is about to publish in a separate and more extended form.

To Dr. Greville I am indebted for the beautiful drawings of Kaya floribunda and Indigofera Brunoniana; and to Professor Graham (who has undertaken the difficult family of Leguminosæ,) for the description of the latter.

To Francis Bauer, Esq., the skilful observer and unrivalled draughtsman, I have to express my best thanks for the analysis of Sphæropteris barbata.

To William Griffith, Esq., who is at this moment on his voyage to India, and whose future exertions, if equal to the early display of his talents and zeal, will shed much additional light on the botany of that country, I owe the drawings of Humboldtia, Henslowia and Phytocrene,—the first published specimens of his botanical skill.

To my most valued friend Dr. Boott, the worthy Secretary of the Linnean Society of London, whose whole life is a beautiful comment on the *Nulli nocere—plurimum prodesse cuique*, I owe obligations throughout my botanical labours in England which it is impossible for me ever to forget or adequately to acknowledge.

I cannot close this imperfect tribute to those to whom I am indebted, without particularly expressing my obligation to Mr. Gauci for his ever prompt and courteous attention to the engraving of the Plates, during which he has uniformly displayed that readiness to oblige, and that amiable consideration for the feelings of others, which so peculiarly distinguish him, and without which it would certainly have been impossible for me to complete my work within the time originally contemplated: and the same tribute is equally due to Mr. John Clark for his kindness in the execution of the colouring. For both of these worthy men and admirable artists I beg to express my sincere respect.

One family of plants has not received from me that attention to which its peculiar interest entitles it, principally in consequence of the early contemplation of a separate work devoted to it by my excellent friends Drs. Hooker and Greville, the distinguished authors of the beautiful Icones Filicum. Their Filices Asiaticæ Rariores, which will appear as soon as subscribers have been obtained to cover the heavy expense of such a work, may be considered as the completion of my own.

Since the date of the list contained in the Preface, the following distinguished botanists have kindly undertaken the monography of several of the remaining genera and families in the Company's Herbarium:

Mr. BENTHAM: Cyrtandraceæ, Myriceæ.
Mr. BROWN: Sonerila.
Dr. GREVILLE: Geraniaceæ.
Mr. HAWORTH: Portulaceæ, Sedeæ.
Prof. HENSLOW: Balsamineæ, Dilleniaceæ, Hippocastaneæ, Stylideæ.
Prof. LINDLEY: Antidesmeæ, Aurantiaceæ, Bixineæ, Grossularieæ, Guajacanæ, Halorageæ, Jasmineæ, Olacineæ, Oleinæ, Podophylleæ, Resedaceæ, Rhizophoreæ, Samydeæ, Santalaceæ, Schizandraceæ.
Prof. VON MARTIUS: Aroideæ, Hydrocharideæ, Scitamineæ.
Prof. MEISNER: Thymeleæ.
Prof. C. G. NEES VON ESENBECK: Piperaceæ.

Count CASPAR VON STERNBERG has already done me the honour to publish the Saxifrageæ in his most excellent work; and I am gratefully indebted to my highly esteemed friend Professor LEHMANN for the publication of the Hepaticæ.

A Map, which has been compiled and executed by Mr. J. Arrowsmith, will serve to illustrate the extent of territory from which not only the plants figured in this work, but those contained in the Company's Herbarium, have been derived. It comprises, besides my own routes, those of other botanists who have travelled in India. I regret not having had materials for pointing out those of Roxburgh and König: it is however well known that the former resided partly at Samulcotta and partly at the Botanic Garden at Calcutta; and the latter made various journeys from Tranquebar and Madras to different parts of continental India and its islands. Dr. Hamilton's route across the southern part of the peninsula has been laid down; but it was impossible to introduce those connected with his various statistical surveys of the Bengal provinces, a work consisting of fourteen folio manuscript volumes, and unrivalled for the inexhaustible stores of information it contains. The expense attending the Map has rendered it necessary to omit several Plates; this I feel it incumbent upon me to mention in justice to the Publishers. It is hardly necessary for me to intimate, that I have had no pecuniary interest in the work of any kind whatever from first to last.

The map will especially serve to point out those parts of India from whence the extensive Herbarium of the Honourable East India Company,—the fruits of the researches of the last half-century, comprising about 1300 genera and 8500 species,—has been derived. After the duplicates of this Herbarium had been liberally distributed throughout the scientific world, by the orders of the Honourable Court of Directors, it has recently been presented to the Linnean Society of London; and I avail myself gratefully of the permission of the Council of that learned Body to publish the following letter and address of thanks which passed on that occasion.

Letter to the President of the Linnean Society.

" East India House, 19th June, 1832.

" My Lord,

" The Court of Directors of the East India Company have within the last four years caused to be distributed to various bodies in this country and in Europe, interested in the promotion of science, between 7000 and 8000 species of plants collected by celebrated naturalists in the Company's service, during a series of years, in India.

" The objects being attained for which the originals of these specimens have been placed with Dr. Wallich in Frith Street, the Court of Directors feel that this Collection may not be an unacceptable addition to the Museum of the Linnean Society of London, which already possesses the Herbarium of the celebrated Linneus. We have therefore the honour, at the instance of the Court of Directors, and in the name of the East India Company, to proffer, through Your Lordship, for the acceptance of the Linnean Society, the Collection in question: and should the Council of the Society be pleased to give effect to the intentions of the Court, the necessary directions will be given to Dr. Wallich to transfer the Collection to the party who may be authorized by the Council to receive the same.

" We have the honour to be,
" My Lord,
" Your Lordship's most obedient humble Servants,
(Signed) " John G. Ravenshaw,
" C. Marjoribanks."

" *To the Viscount Stanley, M.P.*"

Address presented to the Honourable Court of Directors.

" The Council of the Linnean Society having had a Letter laid before them by the President, addressed to his Lordship by the Chairman and Deputy Chairman of the Court of Directors of the East India Company, in which that Honourable Court have been pleased to offer for the acceptance of the Society the extensive Collection of dried plants preserved in the Museum of the India House, take the earliest opportunity of expressing their high sense of the distinguished honour conferred upon the Society by this unexampled act of liberality.

" The Council, in behalf of the Society, accept with feelings of profound gratitude the Collection thus proffered to them, and beg to assure the Court that it shall be held as a trust for the general benefit of science.

" The Council cannot avoid expressing their admiration of the enlightened policy shown by the Honourable Court of Directors, with relation to their collections in natural history, in extending the advantage to be derived from them, by the most liberal distribution of specimens throughout the scientific world, and by this memorable instance of their munificence, in placing the fruits of the labours of König, Roxburgh, Röttler, Russell, Klein, Hamilton, Heyne, Wight, Finlayson, and Wallich, along with those of the immortal Linneus.

" The East India Company, by extending its patronage to those distinguished naturalists who have cultivated science in Asia, so much to their own honour and to the credit of the service to which they belonged, and by the generous use of the rich materials in its possession, has deeply impressed the members of every learned institution throughout Europe and America with feelings of admiration and respect: and the Council of the Linnean Society can only re-echo the voice of general acknowledgement for the great services which the Honourable Company has thus rendered to the cause of science.

" An example of disinterestedness has been exhibited by the Company which has already reflected, and will continue to reflect, deserved honour upon them and upon the country, and which cannot fail to diffuse a spirit of emulation throughout the world.

" *London, June* 23*rd,* 1832.

(Signed) " STANLEY,

" A. B. LAMBERT,	G. BENTHAM,
" W. G. MATON,	W. NICHOLL,
" R. BROWN,	R. H. SOLLY,
" E. FORSTER,	W. YARRELL,
" T. HARDWICKE,	F. BOOTT."

It would be presumptuous in me to express my own feelings on this gratifying event.

It only remains for me as a last grateful duty to proffer my feeble acknowledgement to Sir Charles Metcalfe, Bart., a Member of the Supreme Council of Bengal, and at present Vice President in Council, for his innumerable acts of condescension and kindness to me, by which I have been enabled to offer to the world this humble tribute of my devotion to the cause of botanical science.

N. WALLICH.

London, August, 1832.

PLANTÆ ASIATICÆ RARIORES.

PINUS EXCELSA. Tab. 201.

Pinus excelsa, Lamb. Monogr. Pini, ed. secund. vol. 1. p. 40. tab. 26.

Crescit in alpibus altissimis regni Butan, ubi primùm detexit Dom. W. S. Webb. Ipse observavi in monte Sheopur Napaliæ, etiam copiosè in convalli ipsa ad Bunipa, coniferam et florentem mense Maji.

Although this noble pine has already been admirably represented and described in Mr. Lambert's superb monography on the family to which it belongs, from specimens and memorandums which I supplied, I have thought that a figure taken on the spot might fitly be introduced into the present work; and I am confident that my esteemed friend will interpret my motives on this occasion with that liberality which during half a century has placed his name so deservedly high among the best benefactors and patrons of the science of botany.

The tree grows to a vast size in Butan. Those individuals which I had an opportunity of examining in Nipal had a less elevated stature, but still they were very large. The wood is much esteemed in Nipal, and I am informed by Mr. Aikin, Secretary to the Society of Arts, that it is the most compact of the whole tribe.

Plate CCI. Fig. 1. A branch, with male amentum. 2. Detached male amentum. 3. Scale and anthers. 4. 5. 6. Scales of the cone. 7. Seed.

MORINA LONGIFOLIA. Tab. 202.

Morina longifolia, DeCand. Prodr. vol. 4. p. 644.

Incolit alpes Himalayæ ad Gossain Than et Kamaon, florens mense Augusti.

Planta erecta, satis robusta, pedalis bipedalisve, quin tripedalis, supernè villositate canâ, longâ vestita. Radix fusiformis, attenuata, sublignosa, fusca, 6-pollicaris, supernè fibrillosa. Caulis cylindricus, exsulcus, telâ spongiosâ, niveâ farctus, e basi digitum minimum ferè crasso attenuatus, indivisus, apice villosus, ibique pennam cygneam crassitie sæpè emetiens. Folia angustato-oblonga, sinuata, subpinnatifida, spinoso-acuminata, deorsùm valdè attenuata, petiolata, subcarnosa, glabra, suprà atroviridia, impresso-punctulata, subtùs albicantia, costâ latâ nervisque remotis elevatis; *lobi* rotundati, alternatìm divaricati, unguiculares, subdistantes, inciso-dentati, dentibus triangularibus, terminatis spinâ longâ, rigidâ, albâ, hinc indè muniti glandulâ cylindricâ, brevi, marginali; *radicalia* plura, longissima, pedalia usque ad bipedalia, patentia; *caulina* ternata, disposita in verticillos duos tresve remotiusculos, erecto-patentia, 6—10-pollicaria, interstitiis tertiò longiora, verticilli supremi reliquis angustiora et breviora, integra, sessilia, spinoso-dentata. Petioli breves, lati, marginato-spinosi; foliorum caulinorum connati in vaginam adpressam, tricostatam. Flores rosei, inodori, pollicares, brevè pedicellati, densissimè congesti in verticillos plures convexos, inferiores remotos, superiores valdè approximatos, spicam terminalem semipedalem ad pedalem formantes, suffultos *foliis floralibus, bracteis*ve sessilibus, verticillatis, ternatis, ovato-lanceolatis, acuminatis, spinoso-dentatis, basi latâ concavis, nunc subcordatis, 2—3-pollicaribus, villis longis, sericeis, laxis densè obsitis. Involucellum cylindricum, membranaceum, infra ovarium insertum, villosum, unguiculare, fauce subtruncatâ munitum dentibus 8 erectis, subulatis, pungentibus, subdistantibus: 4 tubum æquantibus, unico sæpè reliquis longiore, 4 alternis, brevioribus. Calyx adnatus, tubulosus, valdè tenuis, basi villosus: *limbi* bifidi, dentibus involucelli brevioris *laciniæ* ovatæ, erectæ, bilobæ, lobis ovatis, obtusis, reticulatis. Corolla dilutè rosea, hypocrateriformis, extùs pubescens, foliis floralibus dimidiò vel triplò brevior; *tubus* gracillimus, ferè filiformis, involucello dimidiò longior, adscendens; *limbus* parvus, patens, tubo quadruplò brevior, bilabiatus, 5-lobus; *lobi* ovati, obtusi, intermedius labii inferioris reliquis parùm longior, basi contractus. Stamina 4, paullò exserta, quorum 2 fertilium *filamenta* brevissima, puberula, infra faucem inserta, leviter decurrentia; *antheræ* erectæ, oblongæ, 2-loculares, *loculis* parallelis, altero breviore. Stamina *sterilia* 2, fertilibus breviora, clavata, obtusa. Ovarium oblongo-cuneatum, 6-sulcatum, vix lineam longum, 1-loculare, continens ovulum unicum, pendulum. Stylus ferè capillaris, glaber, tubo parùm longior. Stigma carnosum, capitatum, vertice acutè umbilicatum.

Plate CCII. Fig. 1. 2. Two detached flowers, much enlarged; the first figure having the involucellum opened. 3. Involucellum, detached and opened. 4. Ovary and calyx. 5. Pistil. 6. Corolla, opened. 7. A detached stamen. 8. Ovary, opened.

SPATHOGLOTTIS PUBESCENS. Tab. 203.

Spathoglottis pubescens, Lindl. Orchid. p. 120.

Habitat in montibus Sillet vicinis, florens sub pluviis. Ipse observavi etiam in montibus ad Prome, et iis prope Avam, Taong Dong dictis, florentem versus finem anni.

Planta gracilis, erecta, terrestris. Tuber globosum, pallidum, parùm depressum, pollicare, læve. Folia duo, erecta, gracilia, ensiformia, utrinque attenuato-acuminata, glabra, plicata, 5-nervia, dodrantalia ad pedalia, suffulta *petiolo* brevi, amplectente, caulem brevem mentiente. Scapus e latere basis tuberis solitarius, tenerrimus, filiformis, adscendenti-erectus, pubescens, folio longior, *squamis* vestitus paucis, alternantibus, remotis, adpressis, lineari-lanceolatis, pollicaribus, inferioribus vaginantibus. Flores flavi, inodori, pollicares, remotiusculi, subsecundi, *pedunculo* unguiculari suffulti. Bractea brevis, linearis infra pedunculum. Perianthii *foliola* subæqualia, oblonga, obtusa, patentia, extùs et margine puberula. Labellum profundè trilobum, lobis obtusis, intùs 3-carinatum, basi levitèr saccatum et purpurascens. Ovarium clavatum, cum pedunculo æquante pubescens.

The plant which I found at Prome and Taong Dong seems to be larger than that which is a native of Bengal, and may perhaps eventually prove a different species. Professor Lindley, in his valuable work on *Orchideæ*, quoted above, considers them as one and the same species.

Plate CCIII. Fig. 1. Flower, dissected. 2. Labellum, expanded. Anthers and pollen-masses.

SWERTIA ANGUSTIFOLIA. Tab. 204.

Swertia angustifolia, Hamilt. apud Don in Prodr. Flor. Napal. p. 126.

Crescit in omnibus ferè montibus Napaliæ, vigens et florens tempore pluviarum usque ad finem anni. In Kamaon legit Robertus Blinkworth.

Planta lævis, erecta, pedalis vel bipedalis, paniculata. Radix longa, attenuata, pallida, fibrosa. Caulis infernè pennam scriptoriam crassus, quadrangularis, purpurascens, e basi usque emittens *ramos* copiosos, graciles, parùm quadrangulares, approximatos, subdecussantes, simplices, erecto-patentes, subfastigiatos. Folia opposita, patentia, lineari-lanceolata, trinervia, interstitia subæquantia, 2—3-pollicaria, acuta, basi attenuata, sessilia, lætè viridia, subtùs pallida; superiora sensìm minora, desinentia in *folia floralia* linearia, pollicaria. Flores numerosissimi, pallidè purpurascentes, punctis purpureis copiosis conspersi, stellato-patentes, 4-partiti, tetrandri, dispositi in paniculam amplam, patulam, solitarii vel ternati, suffulti *pedunculo* longiusculo, ferè filiformi. Calycis *laciniæ* ad basin usque divisæ, lineares, acutæ. Corolla rotata, plana, patentissima, profundè partita, calyce vix major; *laciniæ* lanceolatæ, acutæ, secus margines involutæ, basi exsculptæ foveâ oblongâ, ciliis carnosis densis supernè barbatâ, obtectâ squamâ lanceolatâ, acutâ. Stamina corollâ breviora; *filamenta* æqualia, teretia. Stylus bifidus.

Both this and the following species are common plants in the mountain forests of Nipal and Kamaon, of which they constitute a great ornament during the rainy season. They possess only a slight degree of bitter taste.

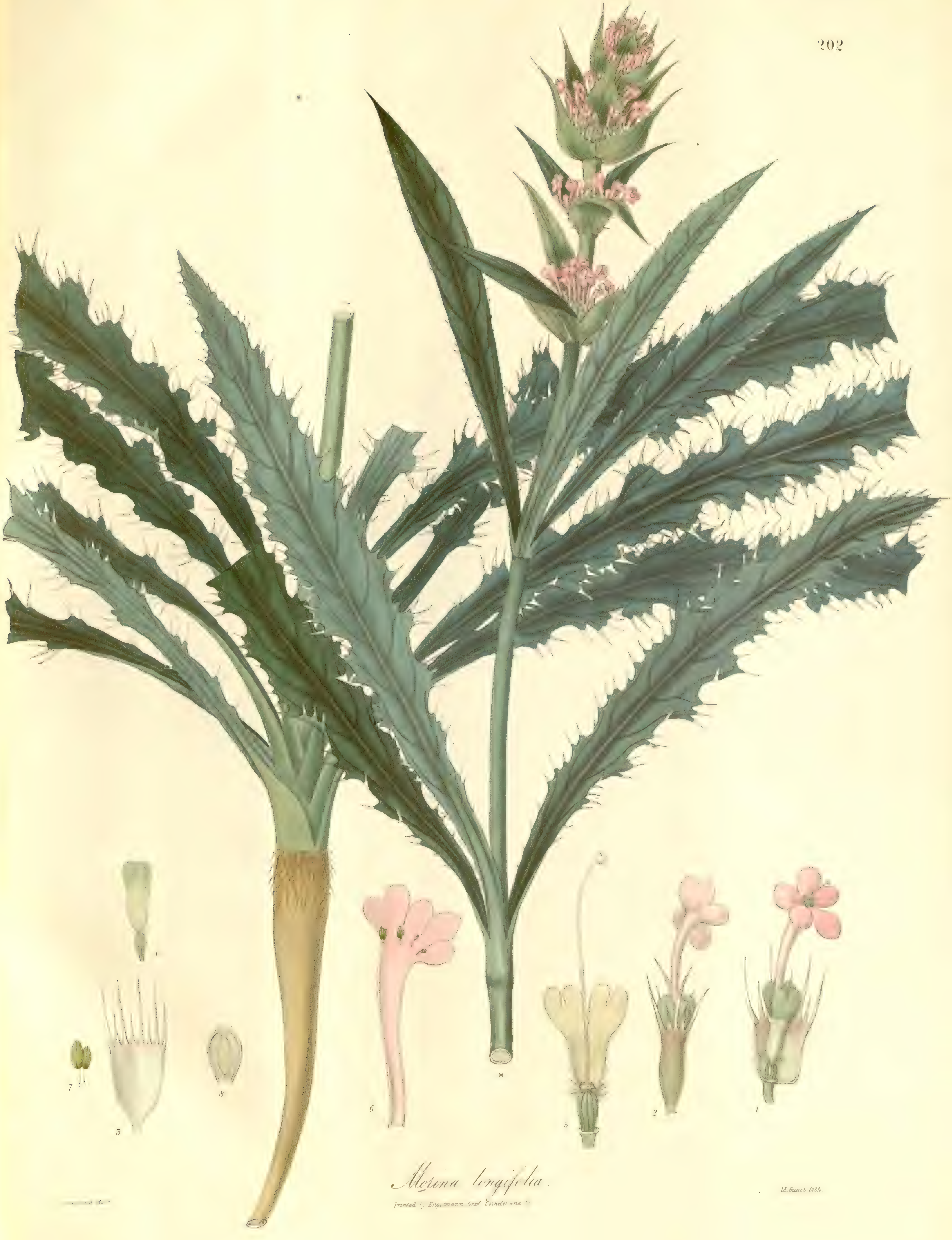
Plate CCIV. Fig. 1. Flower-bud. 2. 3. Flower. 4. Calyx. 5. Corolla. 6. 7. Detached laciniæ of the corolla. 8. 9. Stamens. 10. Ovary. 11. Scale of the base of the corolla.

Pinus excelsa.

Vishnupersaud del.

M. Gauci lith.

Printed by Engelmann Graf Coindet & Co



Morina longifolia.

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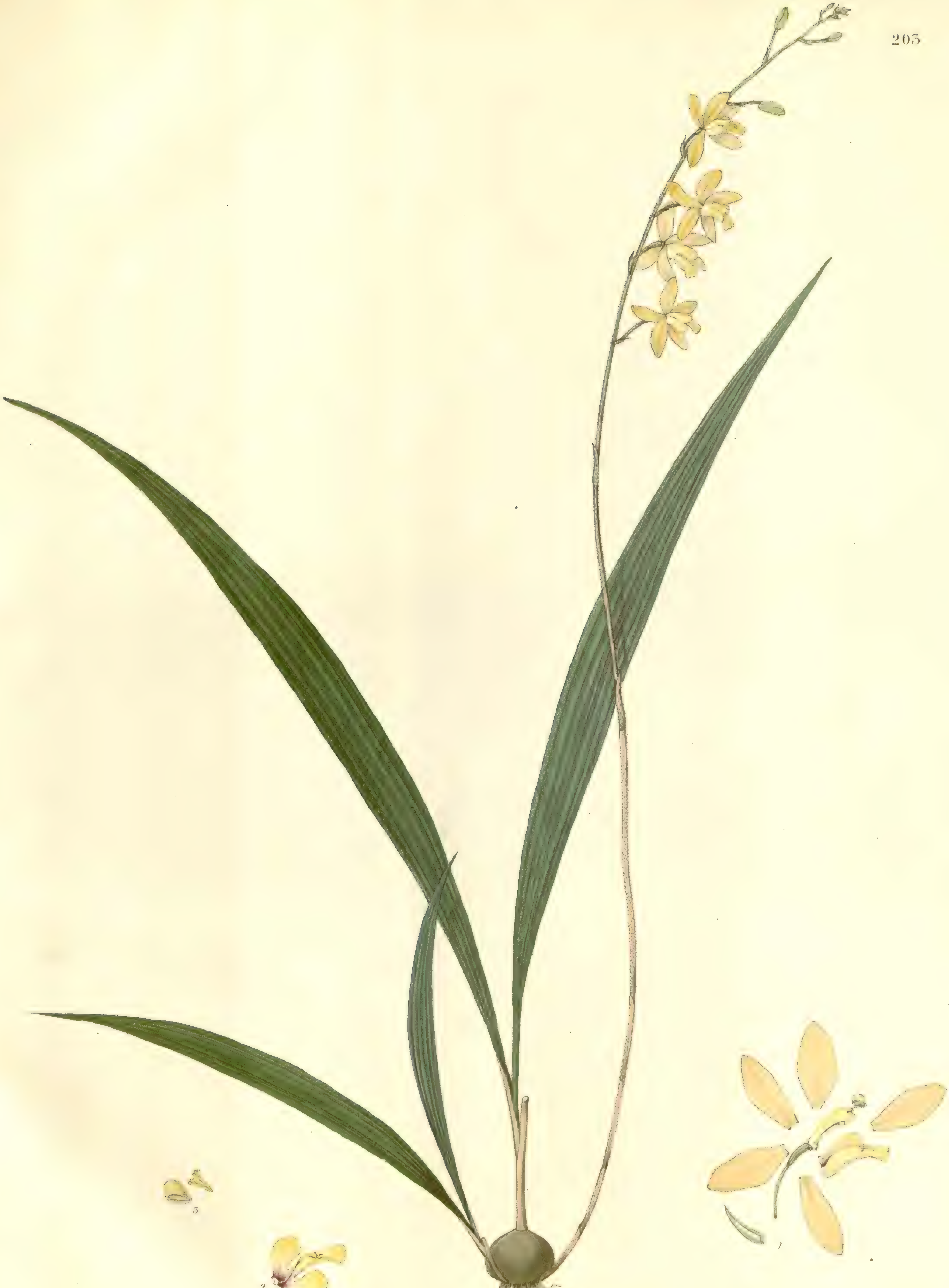
M. Gauci lith.

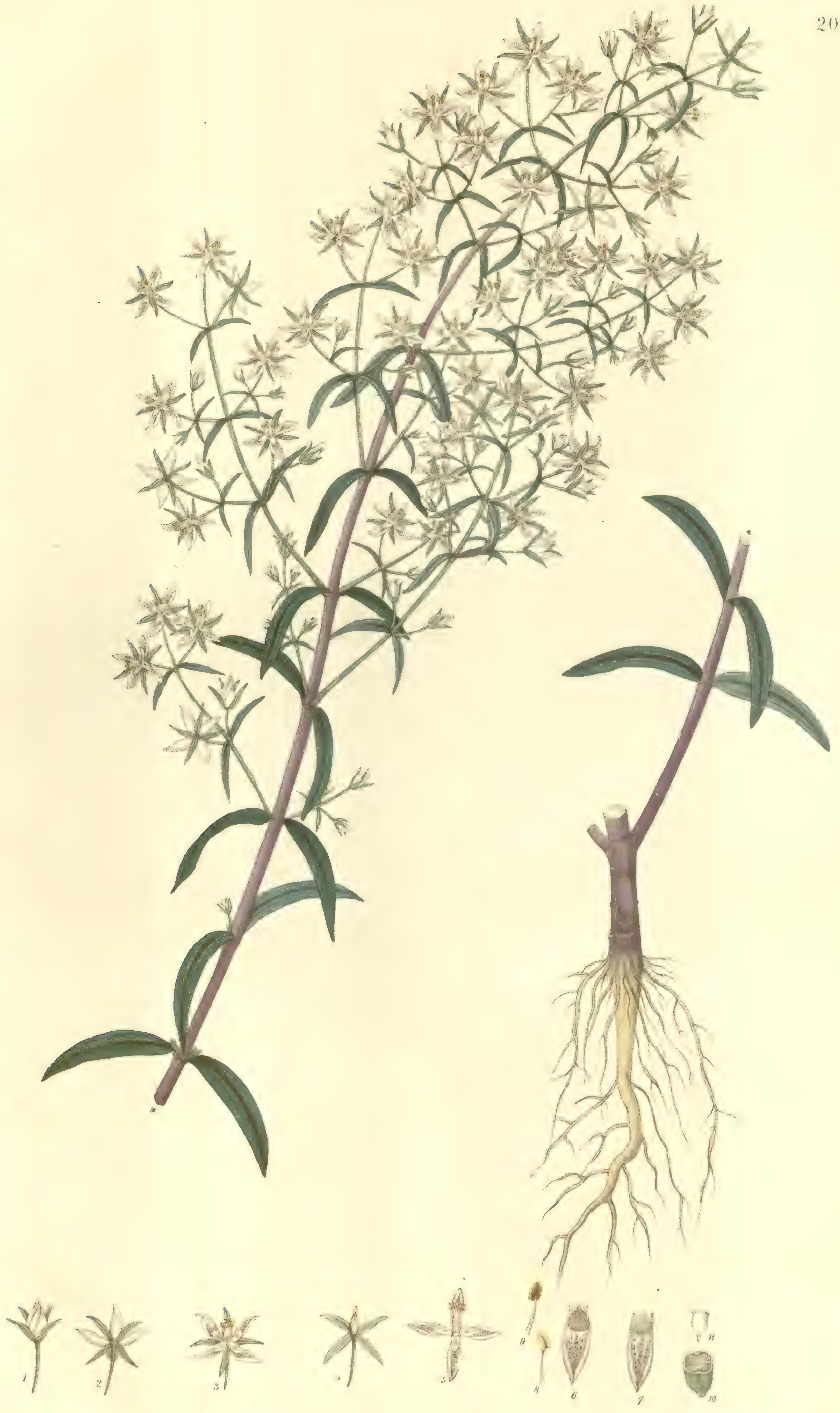


Spathoglottis pubescens.

Vishnupersaud del^{t}

M. Gauci lith.

Printed by Engelmann, Graf, Coinde & Co.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Vishnupersaud delt

Swertia angustifolia

Printed by Engelmann, Graf, Coindet & Co.

M. Gauci lith

SWERTIA PANICULATA. Tab. 205.

Caule ramosissimo, paniculato, glabro, subtetragono; foliis lanceolatis, acuminatis, trinerviis, basi subciliatis; floribus pentandris, paniculatis; corollâ rotatâ, calyce breviore, laciniis ovatis, basi foveolatâ nudis, filamentis mediò dilatatis.

Habitat cum antecedente specie; tempus florendi idem.

Planta præcedenti simillima sed habitu major. Radix ramosa, fibrosa. Caulis crassus, obsoletè quadrangularis, subcylindricus, valdè ramosus, uti reliquæ partes lævis, ramique purpurascentes. Folia lanceolata, acuminata, trinervia, basi attenuatâ subciliata, ferè petiolata, 3-pollicaria, interstitia æquantia; *floralia* angusto-lanceolata. Flores paniculam magnam formantes, 5-fidi, 5-andri, ex albo dilutissimè purpurascentes, guttulis parvis purpureis notati, pedunculati. Calycis *laciniæ* lineari-lanceolatæ, acuminatæ, parùm ciliatæ. Corolla rotata, calyce paullò brevior; *laciniæ* ovatæ, acutæ, basi foveâ concaviusculâ, nudâ impressæ. Filamenta purpurascentia, plana, medio dilatata. Ovarium oblongo-ovatum, læve; *stylus* brevis, apice bifidus.

Plate CCV. Fig. 1. 2. Flower. 3. Calyx. 4. Corolla.

ANDROSACE SARMENTOSA. Tab. 206.

Androsace sarmentosa, Wall. in Roxb. Flor. Ind. vol. 2. p. 14.

Habitat in alpibus Himalayæ ad Gossain Than, florens fructiferaque mense Octobris.

Having given a full description of this charming little plant in Roxburgh's Indian Flora, I shall only observe in this place, that besides the species which I have noticed there I am acquainted with a fifth totally distinct species, which will be described by Professor Lehmann of Hamburgh, and which I have dedicated to that excellent botanist.

Plate CCVI. Fig. 1. 2. Flower. 3. Calyx. 4. Corolla. 5. Ripe capsule. 6. The same, opened.

RHODODENDRUM FORMOSUM. Tab. 207.

Ramis lævibus; foliis lanceolatis, obtusis, suprà lucidis, subtùs floribusque extùs lepidotis; floribus paucis, terminalibus, subecalyculatis, corollâ campanulatâ, tubo anguloso, filamentis villosis.

Crescit in montibus Sillet Bengalæ orientalis confinibus, undè specimina recentia misit M. R. Smith anno 1815.

Frutex? Rami læves, nitentes, fuscescentes, griseo-maculati, cylindrici. Folia ad apicem ramulorum approximatìm sparsa, patentia, lanceolata, obtusiuscula, deorsùm attenuata, brevè petiolata, sesquipollicaria, coriacea, suprà atroviridia, lucida, lævia, subtùs venulosa, glaucescentia, punctis minutis, ferrugineis, sublepidotis valdè copiosè conspersa, costâ albidâ, elevatâ. Petiolus brevis, suprà sulcatus. Flores magni, speciosi, odorati, candidi, lobis apice dilutissimè roseis, intùs deorsùm luteo-punctati, pauci, terminales, *squamis* intermixti gemmaceis, fuscis, ovatis, acutis, seriùs deciduis, aliisque (rudimentis fors florum) linearibus, albo-roseolis, pubescentibus, ciliatis, emarcescentibus. Pedunculi crassi, carnosi, cylindrici, unguiculares, uti calyx corollaque extùs conspersi paleis peltatis, fuscis, minutissimis, fuscescentibus. Calyx minimus, truncatus, margine membranaceo, obsoletè lobato. Corolla campanulato-infundibuliformis, nutans; *tubus* 5-angularis, 5-sulcatus, pollicaris; *limbus* amplus, patens, 5-lobus; *lobi* lato-ovati, obtusissimi, subcordati, supremus paullò major. Filamenta descendentia, gracilia, limbum haud attingentia, inæqualia, 4 vel 5 nempè breviora, villosa. Antheræ cylindrico-clavatæ, fuscæ, apice poris binis obliquè hiantes. Ovarium oblongum, 10-sulcatum, villosum. Stylus filiformis, glaber, stamina paullò superans. Stigma capitatum, carnosum, glutinosum.

My acquaintance with this beautiful species is limited to a few recent specimens which were communicated to me from the mountains bordering on the province of Sillet in 1815 by the late Mr. Smith. The flowers are very showy and fragrant, according to Mr. Smith's account.

Plate CCVII. Fig. 1. Corolla, opened. 2. Stamens and pistil.

ENGELHARDTIA COLEBROOKEANA. Tab. 208.

FOLIOLIS oppositis, 4—5-jugis, oblongis, adultis obtusis, glabris, junioribus tomentosis; fructibus hispidissimis, alis spathulatis, obtusissimis, racemis foliis brevioribus, vel vix longioribus. *Lindl. MSS.*

Engelhardtia Colebrookeana Lindl. MSS.

Juglans pterococca Colebr. Ic. Pict. in Museo Ampl. Procur. Angl. Ind. Orient.

Habitat in montibus Napaliæ, rariùs; florens mense Maji.

My knowledge of this tree is derived from a few specimens which I brought with me from Nipal, but which are not sufficiently good to warrant my giving any description of them. The accompanying figure is taken, with permission, from a drawing made under the direction of H. T. Colebrooke, Esq.

Plate CCVIII. Detached fruit.

GERANIUM GREVILLEANUM. Tab. 209.

CANO-PILOSA; caule cylindrico, adscendente, piloso; foliis oppositis, longè petiolatis, 5-lobis, inciso-dentatis, villosis, mollibus; stipulis bracteisque lanceolatis, 2-partitis; petalis obovatis; stigmatibus elongatis.

Crescit in alpibus prope Gossain Than Himalayæ, florens mense Octobris.

CAULES plures, adscendentes, pedales aut bipedales, teretes, erubescentes, vestiti pilis canis, patentibus, mollibus. FOLIA opposita, remotiuscula, rotundato-cordata, 5-loba, 3-pollicaria, utrinque villis subulatis, hyalinis, patulis munita, mollia, subtùs nervoso-venosa, canescentia; lobi cuneati, subtrifidi, inciso-dentati, dentibus, ovatis acutis. PETIOLI teretes, graciles, folio bis tervè longiores, villosi, sæpè inæquales. STIPULÆ lanceolatæ, profundè bipartitæ, acuminatæ, ferè pollicares, extùs pilosæ. FLORES magni, speciosi, rosei, geminati in *pedunculo communi* gracili, piloso, petiolo longiore; *pedicelli* filiformes, bipollicares. BRACTEÆ ad apicem pedunculi infra pedicellos quaternæ, involucriformes, lineari-lanceolatæ, semipollicares. SEPALA oblongo-lanceolata, cuspidata, nervosa, pilosa. PETALA magna, obovata, retusa, patentissima, calyce duplò longiora. STIGMATA elongata.

This plant comes near to *Geranium Wallichianum*, but differs in having two-parted lanceolate stipules, and much larger rose-coloured flowers.

Plate CCIX. Fig. 1. 2. Flower. 3. The same, dissected.

KAYEA.

SEPALA 4: exteriora crassa, æstivatione valvata. Petala 4, vix calyce majora. Stamina plurima, hypogyna, multiplici serie disposita. Filamenta basi imâ coalita. Antherarum locula discreta, horizontalia, semilunaria, connectivo latiusculo, supernè umbilicato. Ovarium 1, liberum, 1-loculare, 4-sporum; ovula erecta. Stylus 1, staminibus longior. Stigma 4-lobum. Fructus . . . .

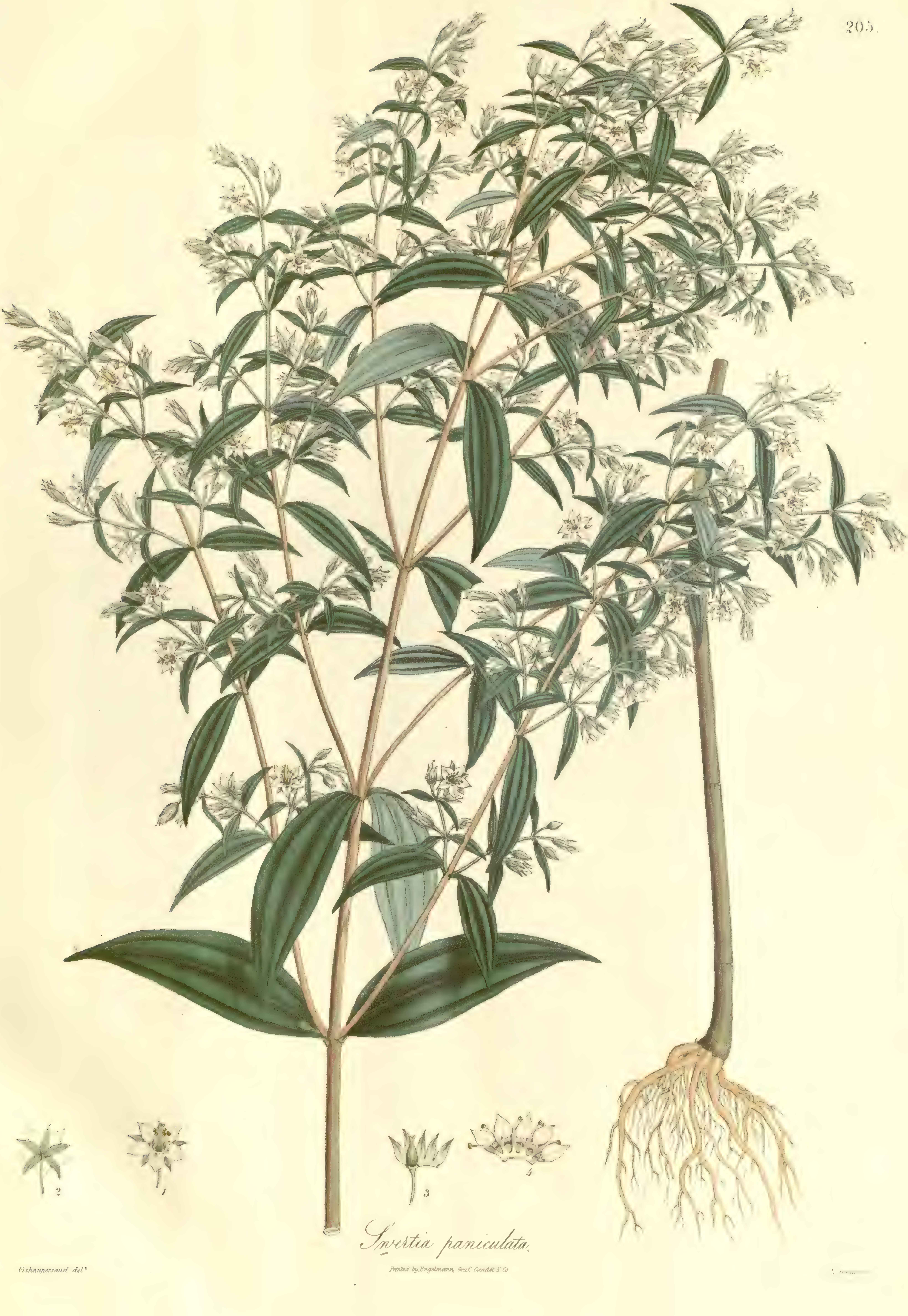
Classis Linneana: *Monadelphia Monogynia.*

Ordo naturalis: *Guttiferæ* Juss. Tribus *Calophyllearum* Decand. ?

Habitus: Arbor procera, frondosa, folia gerens densè approximata, coriacea, ferè enervia, integerrima. Flores pedunculati, paniculam amplam terminalem formantes.

Nomen veneraturus Roberti Kaye Grevillei, LL.D., botanices celeberrimi et meritissimi, operum præstantium, longè nitidissimorum auctoris, viri scientiâ æquè ac animi pietate et morum suavitate præcellentis, amici probati et dilecti, hoc genus novum appellavi.

205.



Swertia paniculata.

Vishnupersaud del.t

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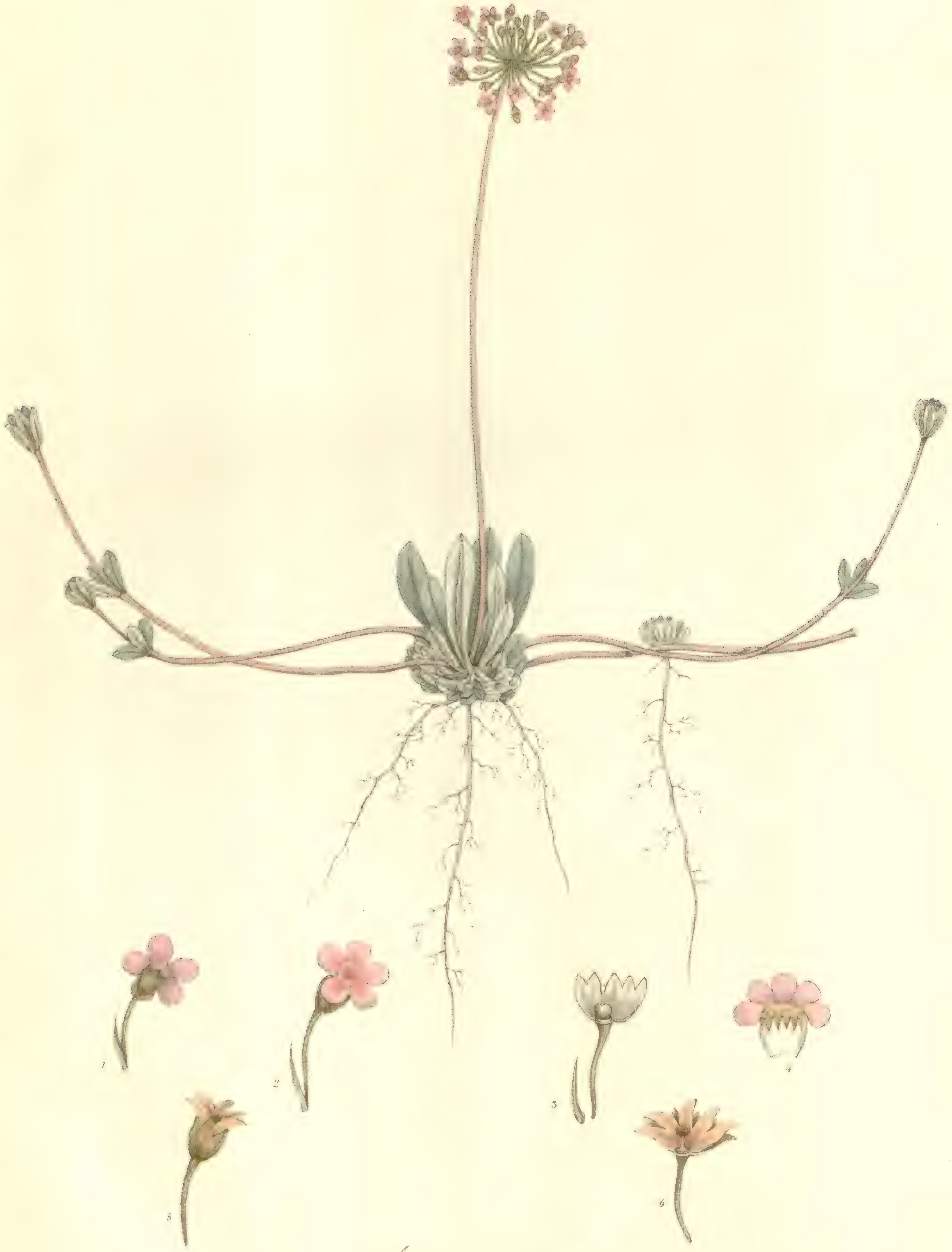
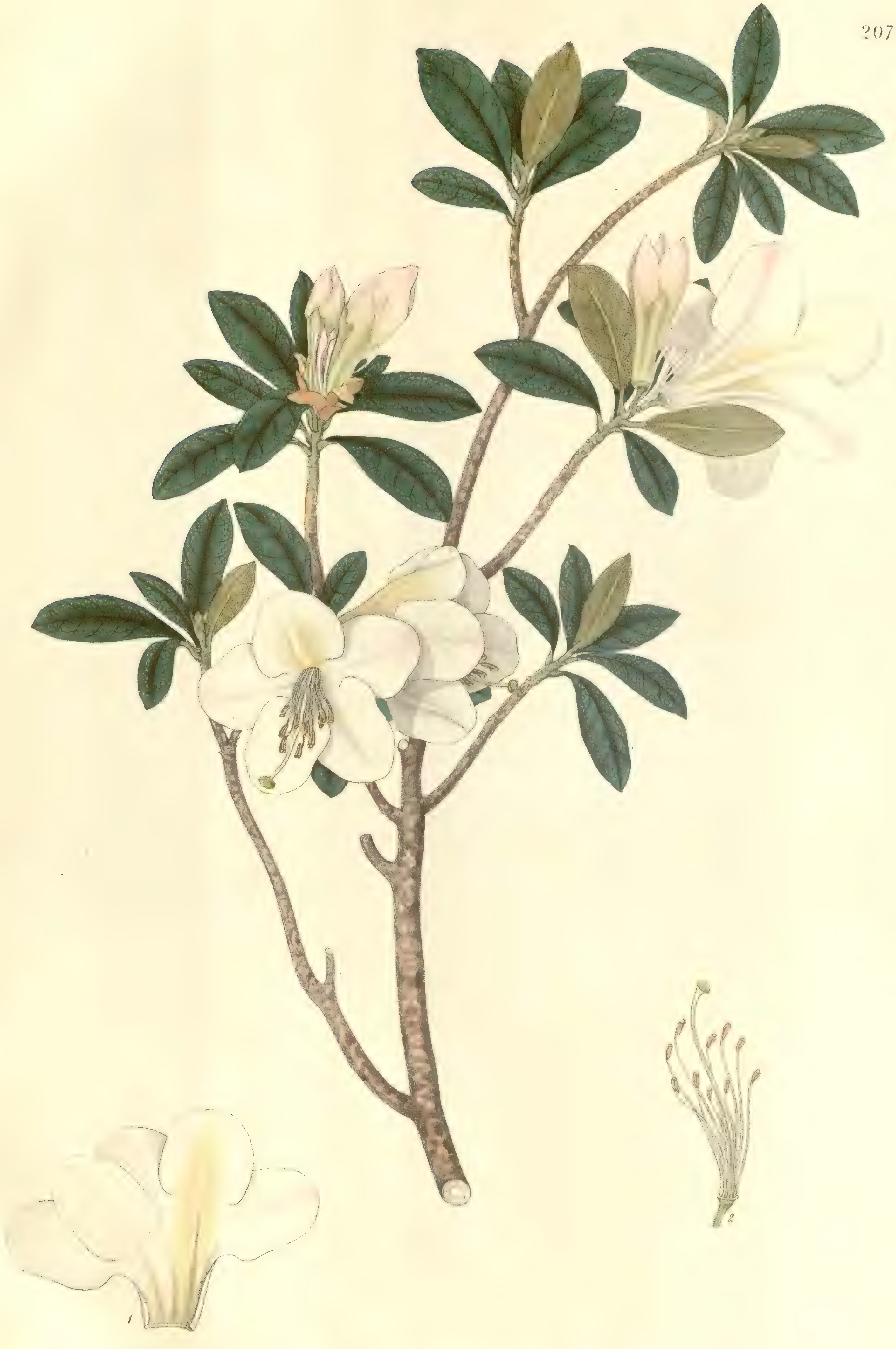


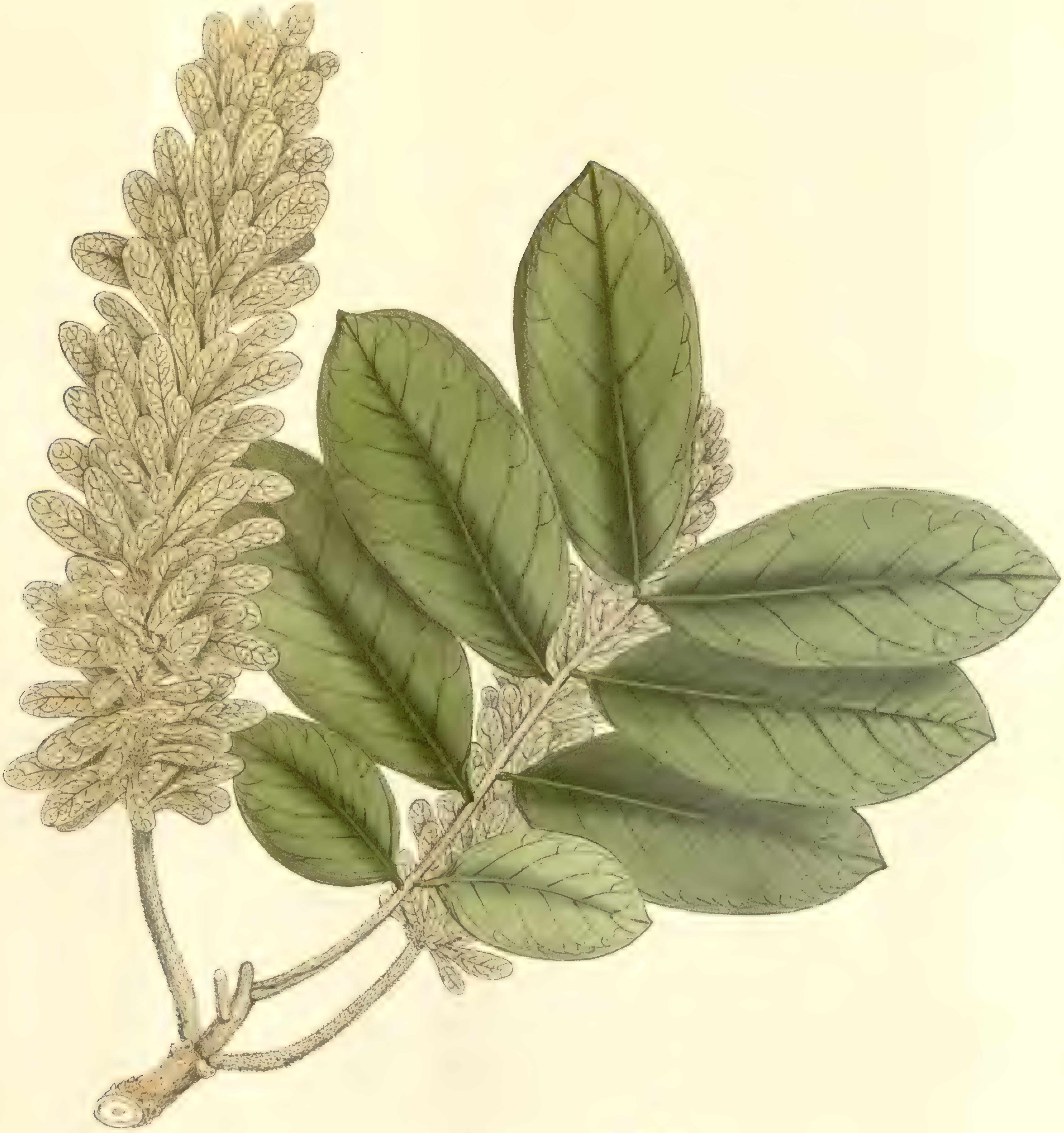
Androsace sarmentosa

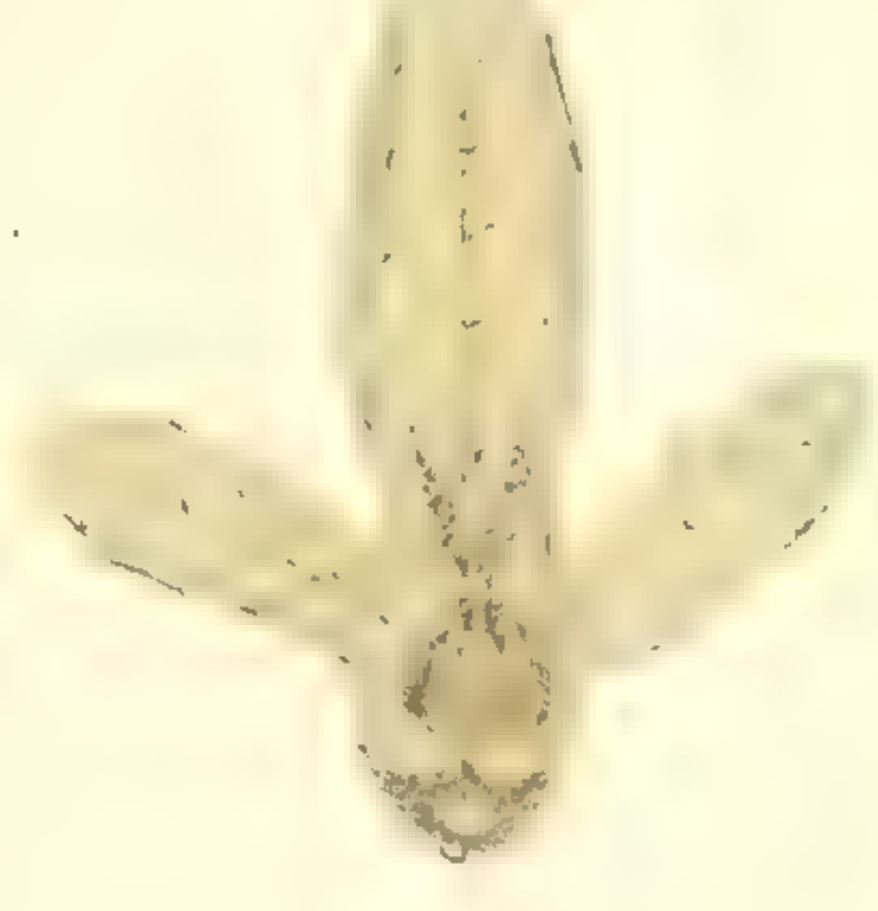
Gorachand del^{t} Printed by Engelmann, Graf, Coindet & Co. M. Gauci lith.



Gorachand del.^t Printed by Engelmann, Graf, Coindet & Co M. Gauci lith

Rhododendrum formosum





Engelhardtia Colebrookeana.

M.Gauci lith.

Printed by Engelmann Graf, Coindet & Co.

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Gorachand delᵗ

M Gauci lith

Geranium Grevilleanum.

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KAYEA FLORIBUNDA. Tab. 210.

Crescit in montosis Sillet confinibus, unde specimina et plantas vivas miserunt De Silva et Gomes, plantarum collectores. Floret mensibus Martii—Maji.

Nomen Khasianum, *Kurrum-Jowa*.

Arbor procera, comâ amplâ, frondosâ et umbrosâ (ex De Silva). Rami cylindrici, oppositi, imo subverticillato-fasciculati, erecto-patentes, glabri, recti, cortice æquali, griseo obtecti, ad divisuras subarticulati; *recentes* glauci, obscurè quadrangulares, sursùm subcompressi, uti omnes reliquæ partes glaberrimi. Folia ad extremitates ramorum valdè numerosa et approximata, opposita, patentia, petiolata, oblonga, attenuato-acuminata, integerrima, levissimè undulata, margine vix cartilagineo levitèr recurvato, basi acuta, 5—7-pollicaria, interstitiis pluriès longiora, plana, coriacea, firma, utrinque glauca et opaca, subtùs costâ planiusculâ prominente, nervis suboppositis, transversalibus, approximatis, parallelis, capillaribus et vix prominulis, propè marginem arcuato-anastomosantibus, venisque inconspicuis, in siccis foliis minutim reticulatis. Petioli cylindrici, graciles, pollicares, suprà plano-sulcati, basi æquali subarticulati. Stipulæ nullæ. Flores perquàm numerosi, magnitudine florum *Calophylli Inophylli*, pedunculati, ex albo dilutè roseoli, (fragrantes ex De Silva), subrotundi, ternati, subracemosi, *paniculam* formantes terminalem ramorum ramulorumque, amplam, densam, latè ovatam, ferè sessilem, subbrachiato-ramosam, nudam vel ad basin stipatam pari uno alterove foliorum floralium reliquis conformium sed minorum. Pedunculi subquadrangulares, levitèr complanati, glauci, insertione subarticulati; *communes* digitum circitèr longi, erectiusculi, aliquot ex axillis supremis sæpè fasciculatim progredientes, e basi ferè divisi in *partiales* oppositos, breves, apice trifloros; *pedicelli* semipollicares, mediò bibracteolati. Bracteæ infra omnes divisuras oppositæ, patentes, lineari-subulatæ, acutæ, lineam ad duas longæ, coriaceæ. Calyx quadrisepalus, coriaceus, globosus, demùm vix patulus; *sepala* integerrima, duplici serie opposita: duo *exteriora* hemisphærica, dorso valdè convexa, basi levitèr gibbosa, marginibus subtruncatis, membranaceo-incurvatis æstivatione valvata; *interiora* consimilia, sed minùs crassa, obscurè retusa, ab exterioribus omninò occulta, dorso propter commissuræ istorum pressuram ante anthesin subcarinata, marginibusque extenuatis imbricantia. Corolla 4-petala, subcarnosa, ex albo dilutè rosea, calyce parùm longior, decidua; *petala* ovato-oblonga, obtusiuscula, integerrima, lineato-vascularia, sepalis alternatim opposita, ante evolutionem imbricantia. Stamina plurima, erecta, æqualia, multiplici densâque serie circum pistillum posita, corollâ breviora; *filamenta* capillaria, lævia, basi imâ connata in annulum angustissimum, infra basin ovarii insertum, apice dilatata in *connectivum* subpeltatum, umbilicatum; *antheræ* parvæ, luteæ, horizontales, biloculares: *loculi* distantes, cylindrici, gyrato-semilunares, subtùs dehiscentes; *pollen* minutum, globosum. Pistillum unicum; *ovarium* cylindraceo-oblongum, 1-loculare; *ovula* 4, erecta, basi fundo loculi obliquè inserta; *stylus* erectus, teres, filiformis, staminibus longior; *stigma* parvum, obsoletè divisum in lobulos 4 subulatos, apice divergentes. Fructus haud visus.

Not having succeeded in procuring any fruit, I am unable to give a complete account of this noble tree. The plant-collectors inform me that it grows very large on the mountains bordering on the district of Sillet in Bengal, and bears a profusion of white or pale pink very sweetly scented blossoms. Even the dried specimens prove that the foliage and inflorescence must be very beautiful. The tree forms a new genus in the family of *Guttiferæ*, which I am proud to dedicate to my highly valued friend Robert Kaye Greville, Esq. LL.D., of Edinburgh, a most distinguished and acute botanist, who has enriched the science with some of the most beautiful and accurate works it has to boast of. As there already exists a *Grevillea*, called after a different person, I have adopted a method not unfrequently used heretofore, by designating my plant *Kayea*.

The genus belongs to the tribe of *Calophylleæ*, which Professor DeCandolle has established, approaching both in habit and generic character to *Mammea*, *Mesua*, and *Calophyllum*, but differing in the valvate calyx, and in the structure of the anthers and stigma: from the last-mentioned genus its leaves at once distinguish it. It resembles also a *Garcinia*, but it wants the yellow juice and the sessile stigma of that genus.

I am indebted to Dr. Greville for the drawing of the plant, and to Professor Lindley for the analysis of the flower.

Plate CCX. Fig. 1. Flower. 2. Calyx. 3. The same, divided so as to show the pistil. 4. Stamen. 5. The same, seen from below. 6. Pollen. 7. A section of the ring into which the filaments are united at the base. 8. 9. Ovary, opened. 10. Detached ovule. 11. Upper part of the style, showing the stigma.

CHAMÆROPS MARTIANA. Tab. 211.

Caudice elato; petiolis vaginâ reticulatâ, basi in margine levitèr dentatis intùsque paleis albis, furfuraceis, ligulâ rotundatâ, foliolis inermibus, apice bifidis; spathis partialibus pluribus; fructibus subsolitariis, lepidotis, hinc sulcatis; spadicibus (adultæ palmæ) interfoliaceis.—*De Martii MSS.*

Crescit in convalli Napaliæ magna, altitudine pedum 5000 supra oceanum. Floret Majo; fructus maturat Augusto.

Nomen Newarrense, *Tuggu*.

Caudex disco *radicum* subsimplicium, compactarum terræ infixus, in quadraginta pedum altitudinem emicans, ipsam basin versus levitèr conico-incrassatus, ibique ambitu pedes duos metiens, supernè cylindricus, diametro 4—6-pollicari, fusco-cinerascens, cicatricibus annularibus, planis, copiosis notatus, per aliquot pedum infra coronam distantiam obvolutus parte basilari petiolorum, qui supra vaginam abrupti cum hac ipsa persistunt. Frondes comam pulcherrimam, sphæricam, 8—10-pedalem constituunt, flabelliformes. Petiolus tripedalis et longior, in ima parte triente in vaginam extensus. Est autem hæc *vagina* cylindrica, obliquè truncata, in latere ventrali altior et acutiuscula, contexta fibris fuscis, complanatis, rhombeo-decussantibus (extimi scilicet et intimi strati a dorso versus latus ventrale sursùm, intermediis deorsùm decurrentibus,) atque in parte dorsali carinata æquè ac in ventrali adspersa squamulis seu paleolis siccis, cinerascentibus, versus basin minoribus piliformibus, sursùm majoribus latiusculis, detergibilibus. Petioli pars supravaginalis in inferiore facie carinato-concava, in superiore planiuscula, versus vaginam nonnihil concava, sursùm plana et levitèr bifacialis, pollicem lata, infra laminam paullò attenuata, viridis, ad marginem fusco-nigricans atque in parte infima dentibus subcorneis, parùm promissis armata, glabra, exceptâ basi, quæ intùs paritèr ac vagina paleolis cinereis, crispis pubet. Lamina suborbicularis, diametro sesqui- ad bipedali, constans *pinnis* 60 et pluribus, imâ basi, ubi circum ligulam ovato-orbicularem, unguicularem (in quam petioli apex turget) adnascuntur, omnibus inter se coalitis, conduplicatis, indèque per totius longitudinis trientem conjunctis, sursùm verò liberis, lineari-lanceolatis, ferè sesquipollicem latis et ob conduplicationem tandem apice bifidis (absque filis intermediis), acutis, lætè viridibus, glabris, inermibus, attamen margine denticulis minimis, sublepidotis adspersis, percursis nervis, intermedio crasso, subtùs acutè carinato-prominulo, supernè concavo, et lateralibus multis, valdè approximatis. Spadices plures inter frondes erumpunt (palmæ tamen junioris in icone depictæ infra comam e vaginis nudis proveniunt), ramosissimi, *spathis* vagis, incompletis basi et ad ramificationes majores instructi, 3—5 pedes longi, patentes, multiflori. Pedunculus *communis* circitèr pedali longitudine simplex, sursùm in ramos alternos, erecto-patentes divisus, imâ basi quâ intromittitur frondium basibus non manubrio amplectente, quale in *Oenocarpis* etc. videmus, adfixus, ibidem compresso-anceps atque villo ferrugineo, crispo densè obsitus, paullò suprà crassior atque ad teretem circumscriptionem magìs accedens, pollicem crassus, ibique munitus *spathâ* infimâ pedali aut sesquipedali, transversè adnatâ et vaginante, sursùm liberâ, apice bifidâ, semitereti, ancipiti, intùs planiusculâ, ad utrumque marginem longitudinalitèr sulcatâ atque tomento griseo-fusco, nitido adspersâ, extùs convexâ, apice tandem in utroque latere fissâ. Hanc spatham sequuntur nonnullæ alternatìm positæ, pedunculo altiùs adnatæ, primæ consimiles, latiùs tamen obliquè apertæ, ore paritèr bifido. Omnes hæ spathæ coriaceæ sunt texturæ, tandem præsertìm ad margines findendæ, atque colore testaceo-helvolo gaudent, denique fuscescunt. E tertiæ aut quartæ spathæ sinu primus progreditur ramus floriger, illamque longitudine vix superat; eademque lege superiores rami primarii spathis partialibus basi sunt obvoluti, eo solùm discrimine, quod spathæ breviores fiant angustioresque. Rami minores spathis propriis non distinguuntur. Rachis sive pedunculi inter spathas continuatio infernè pollicem crassa, teretiuscula, supernè, ubi in ramos plures abit, sensìm sensimque attenuatur. Ad divisiones, quæ spathis distinctis non instruuntur, *bractea* perexigua, membranacea, formâ cristæ transversæ apparet, cujus ex ala ulterior ramus procedit, attamen vel hæc nonnunquam planè deficit, ita quidem ut ramificatio quasi irregularis absque mediantibus bracteis in ultimos ramulos usque continuetur. Rami et ramuli omnium ordinum teretiusculi, glabri, pallidè virides. Ramuli ultimi semipollicem ad sesquipollicem longi. Flores in iis sessiles (non immersi) parvi, lineam vel sesquilineam alti, albido-flavescentes, glabri, in ramulis ibidem quasi in nodulum tumentibus solitarii aut gemini, densè dispositi, eâ quidem lege, ut nonus flos plerumque perpendicularitèr primo sit superpositus, interjecti verò 7 triplici gyro ramulum ambeant. Bracteola parvula, subulato-triangularis, membranacea, ad basin floris cujusvis, et intra hanc duæ minores ejusdem formæ (quas rectiùs foliola peduncularia diceres cum hoc ipso delitescente communi axi adnata). Calyx constat foliolis tribus suborbicularibus, vix acutiusculis, teneris, margine extenuato integerrimis, nervo unico, lato instructis, quorum duo superius s. posticum ab axi spicæ latus, tertius inferius occupant (situ in Palmis solemni). Corollæ *petala* calyce triplò majora, ferè lineam longa, ovato-orbicularia, teneriuscula, erecto-patentia. Stamina sex, longitudine ferè perianthii, hypogyna, basi inter se quasi distincta, subulata; ea, quæ corollæ opponuntur, vix ac ne vix quidem longiora. Antheræ lineari-oblongæ, acutæ, supra medium filamentis adfixæ, demùm omni longitudine apertæ et tunc ellipticæ, cristâ polliniferâ per medium locellum decurrente. Pollen in cumulo album, ellipticum. Pistilla tria, distincta, 1 in postico, 2 in antico floris latere, erecta. Ovaria *ovulis* solitariis, erectis, ovata, extùs convexa et villo tenui sericante, facilè detergendo præsertim verticè involuta, intùs, ubi contigua, bifacialia, ibique nuda. Sunt verò horum alia fœcunda, alia cassa; illa crassiora sunt atque in *stylos* teretiusculos, perbreves, extrorsùm curvatos, *stigmate* subcapitato terminatos, abeunt; hæc graciliora, in stylos longiores, stigmatibus orbatos attenuantur atque unà cum staminibus et perianthio decidunt. In iis autem floribus, qui præ aliis in fructus abeunt, post grossificationem mutationes solitæ locum habent: incrassatur calyx et grandior fit, ut tandem cupulam formet ultra lineam altam, quâ fructus continetur. Sunt autem flores, qui pistillis cassis instruuntur multò numerosiores et post anthesin defluentes fertilibus locum cedunt, quo hi excrescant et spadices demùm onerent in quatuor et quod excedit pedum longitudinem expansos, nutantes, racemum supradecompositum constituentes. Ramuli ultimi hujus racemi circitèr digitum longi, teretiusculi, nonnihil flexuosi, pro fructibus in pedicellos perbreves, crassiusculos tument. Baccæ intra perianthium grandefactum duorum pistillorum abortu in singulo perianthio solitariæ (et quidem ex ovariorum binorum anticorum numero alterum excrescit, reliqua duo sterilescentia aboliuntur), ellipticæ, olivarum formâ, sed duplò minores, hinc sulculo tenui longitudinali exaratæ, utrinque obtusæ, styli rudimento brevi umbilicatæ. Epidermis flavedine *Phœnicis sylvestris* fructus æmulatur, squamulis lepidotis pluribus instructa. Cortex coriaceus, vix semilineam crassus, introrsùm mollior et quasi grumosus, superficie interiore lævissimâ, pulchrè reticulatâ, exceptâ imâ basi quâ semen erectum adhæret. Semen unicum, subdimidiato-ovatum, altero scilicet latere planius, ibique per medium *raphe umbilicali* indè a puncto adhæsionis sursùm productâ insculptum, altero gibboso-convexo, magnitudine seminis *Coffeæ arabicæ.* Testa griseo-fusca, tenuissima, membranacea, albumini superficie internâ glutinoso-mucosâ (dum junior fructus laxiùs) adhærens. In ventrali latere, quod raphe exsculptum est, versus centrum substantia mollior testæ ita introrsùm producta est, ut sectio transversalis figuram cordatam aut ferri equini, tanquam ruminationis principium, exhibeat.

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Kayea floribunda

Greville plantam.
analysin del!
M. Gauci lit.
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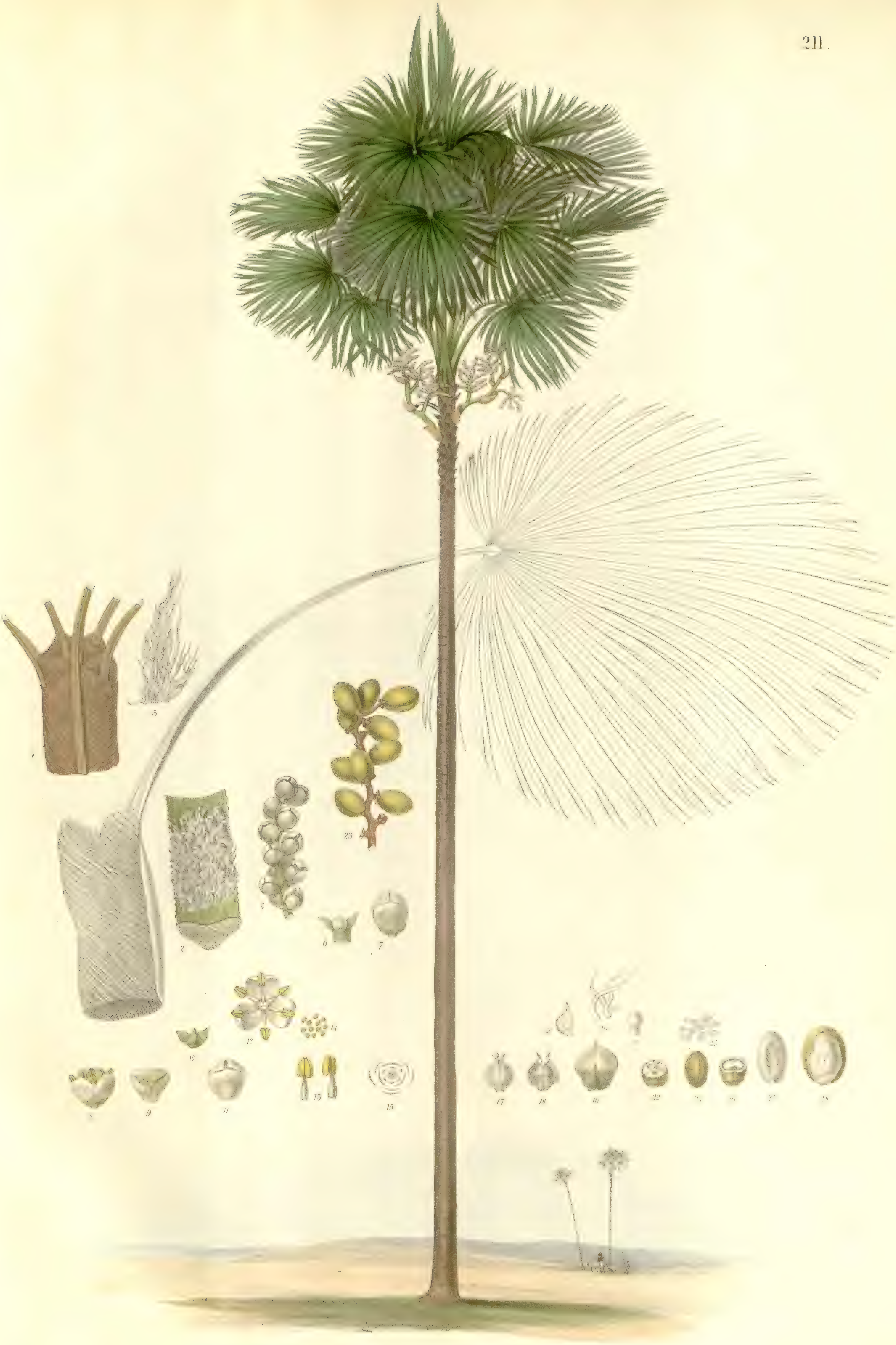
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Chamaerops Martiana

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Albumen semini conforme, cartilagineo-corneum, in facie dorsali paullò infra medium lectulo insculptum cylindrico, profundo, obtuso, axin seminis ferè attingente atque laminulâ tenerâ, ex albuminis substantia factâ tecto, cui *embryo* incumbit liber, albus, trochleari-conicus, extremitate radicali planiusculâ, parùm latiore peripheriam spectante, extremitate cotyledoneâ, internâ, centripetâ, obtusâ.—*De Martii MSS.*

For the preceding minute and masterly description, as well as for the exquisite drawing from which the engraving has been executed, I am gratefully indebted to my inestimable friend Professor Von Martius, the illustrious botanist and traveller, author of several most valuable and superb works, chiefly one on Palms, which indeed bears the palm of all that have ever been published on any branch of Natural History. The principal figure in the plate has been improved from a drawing, by a native artist, of a young tree which blossomed in the Calcutta Botanic Garden in 1817; and this will account for the inflorescence being represented as issuing below the crown; whereas in the full-grown state of the tree it is produced partly among and partly below the leaves.

To my knowledge the Palm is found nowhere except at Bunipa in the great valley of Nipal, where, however, it is produced in considerable abundance. It is a most elegant tall and slender tree, with a globular head of fan-shaped shining leaves. In total height it measures from 40 to 50 feet, of which the crown forms about one-sixth. I am not aware that any part of it is made use of, except the yellow olive-shaped berries, which are eaten by the natives, though their pulp is very scanty and almost tasteless.

I long ago suspected that this Palm might perhaps prove the same as Thunberg's *Chamærops excelsa* (Flora Japonica, p. 130.), and under that name I actually sent plants and seeds of it to England, where it now exists in several hothouses: but I now believe that they are distinct; at any rate our knowledge of Thunberg's Palm is far too deficient to decide the point. I may add that I have seen plants of the Japan Palm in the noble establishment belonging to the worthy and liberal Messrs. Loddiges at Hackney, which on comparison with the *Chamærops Martiana*, also growing there, seem quite different.

Plate CCXI. Fig. 1. A leaf. 2. Section of the petiol, showing the scales on the inside. 3. A scale detached from the petiol. 4. Top part of the trunk, showing the position of the sheathing bases of the petiols. 5. Apex of a flower-branch (natural size). 6. Bract, together with the two peduncular bractlets on the rachis. 7. Flower before expansion. 8. Expanded flower. 9. The same, seen from below. 10. Calyx. 11. Corolla. 12. Parts of fructification in an expanded flower, exhibiting the relative position of the pistils. 13. Stamen, viewed from two sides. 14. Pollen. 15. Projection of the flower, with the bracts, bractlets, and organs of fructification. 16. Flower after fecundation. 17. Three pistils. 18. Two pistils, exhibiting their inner sides, the third being removed. 19. Hairs taken from the upper part of the ovary. 20. Vertical section of the ovary, showing the ovule and its short cylindric funiculus. 21. Detached ovule and its funiculus, exhibiting the point of fecundation noticed by Mr. Robert Brown (*micropyle* of M. Turpin). 22. Horizontal section of the three ovaries, one only containing an ovule. 23. Apex of a fruit-bearing branch (natural size). 24. Berry separated from its calyx (natural size). 25. Irregular scales separated from the surface of the berry. 26. Horizontal section of the berry through its embryoniferous cavity, showing the two-lobed albumen. 27. Seed, viewed from the side of the raphe. 28. A berry, having part of the pulp and testa removed from its back to show the position of the embryo.

PRANGOS PABULARIA. Tab. 212.

Prangos pabularia Lindl. in Quarterly Journal of Science, vol. xix. p. 7. DeCand. Prodr. vol. iv. p. 239.
Laserpitium Wall. in Act. Soc. Agric. Calcutt. vol. i. p. 94.

The subject of the accompanying plate is of such importance in an agricultural point of view, that I trust I shall be readily excused for making copious extracts concerning it from two valuable works. It will be seen that all our practical knowledge of the Prangos is derived from observations made on the spot where the plant grows, by the late Mr. William Moorcroft, a gentleman of the highest scientific and professional acquirements, who was endowed with an extraordinary degree of enterprise and zeal as a traveller, and whose loss will long be lamented by all who knew and appreciated his sterling worth and talents. Unfortunately, the consignment of seeds which he had forwarded to Calcutta did not vegetate; and notwithstanding the prompt and liberal assistance afforded by the Bengal Government for the attainment of so desirable an object, all endeavours to procure a second supply have hitherto been ineffectual. A large quantity of seeds was indeed sent to me some years ago under the name of Prangos, but they proved to be Lucerne only; I took care, however, to distribute portions of them through many parts of India as well as Europe.

The following are extracts from a letter which I wrote to Mr. Charles Lushington, Secretary to the Bengal Government, in September 1823, and of Mr. Moorcroft's communication referred to in it:—copied from the Transactions of the Agricultural Society of Calcutta, vol. i. p. 94 to 103.

"Conformably to the orders of Government, I immediately proceeded to examine the two boxes, the contents of which I found to be as follows: 1. In the larger box, a bag of the seeds of the plant producing the Prangos hay. 2. In the small box, three parcels, each containing an entire Prangos herb, one of them cut a month before the usual time of gathering; a cross section of the top of an old Prangos root; three specimens of young roots with the bottom of the plant attached, also a separate fourth section; and a small parcel of unripe Prangos seeds.

"With the exception of the bag itself containing the seeds, and a few of the outermost of these latter, which were much damaged by mouldiness, I had the satisfaction of finding all the rest of the seeds and the other articles in excellent condition: a very fortunate circumstance, considering the vicissitudes they must have undergone during the thirteen months of their passage down to the Presidency. I have taken every possible precaution with the view to the preservation of the seeds, but I greatly apprehend that their age, superadded to the extremely detrimental influence of this climate on their vegetative power, form a barrier against every expectation of rearing any plant from the present supply. As far as I can judge from detached seeds and dried leaves only of a plant, belonging to one of the most difficult tribes, the Umbelliferous, the Prangos constitutes a gigantic species of *Laserpitium*, which the valuable detail contained in Mr. Moorcroft's letter establishes beyond a doubt, as a most important and interesting object of rural economy. In order to give every chance of success to the laudable and meritorious exertions of that scientific gentleman (to whom this great discovery is due), I beg leave to suggest the following mode of distribution, which I feel assured would be approved of by him if he was on the spot. As soon as the weather becomes a little dry (the present damp state of the atmosphere being extremely unfavourable to such an undertaking), I propose packing up two boxes to the address of the Honourable Court of Directors of the East India Company, each containing a large quantity of Prangos seeds, with the specimens of hay, &c. divided between them; and I shall, without loss of time, transmit to you a memorandum of their contents, in order that they may, with the least possible delay, be forwarded to England by the first two ships that may sail. I shall likewise, conformably to the instructions contained in your letter, make ready a box for the Government of the Cape of Good Hope. The quantity of seeds in the present collection being so very ample, I submit the expediency of sending small parcels, containing about an ounce each, to Nipal, Saharunpur, Kamaon, to the Eastern Islands and the Mauritius, thereby affording this remarkable plant every encouragement of growth from variety of soil and climate. This mode will give an additional chance of success, on the supposition that the seeds, though still alive, may possibly lose their last spark of vegetating power during the four or five months of trial which a passage to England necessarily implies. Most happy shall I be, if the seeds, which were sown in the garden the very day after the receipt of the boxes, may enable me to report favourably of their germination.

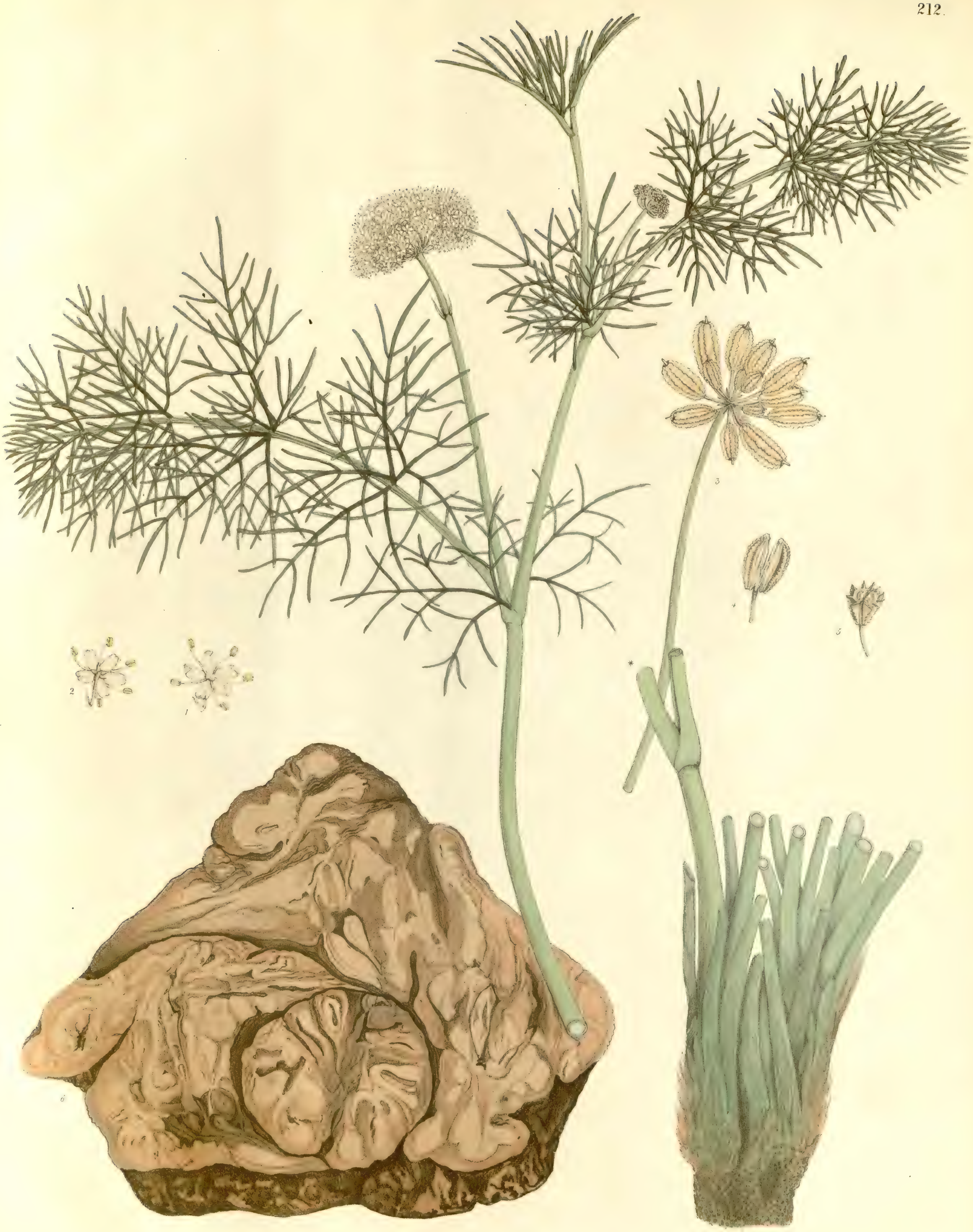
"The document of Mr. Moorcroft is so highly deserving of promulgation, that I solicit the sanction of His Lordship in Council for my submitting it to the Agricultural Society of Calcutta; and finally I request the favour of being indulged with a copy of the communication to the Board of Agriculture of Great Britain alluded to in it."

Extract from Mr. Moorcroft's letter to Mr. Secretary Bayley, dated at Wakka, on the left bank of Molbee Ches, the 15th of August, 1822.

"Wishing to employ as usefully as possible the time I am compelled to wait for the final answer of the Chinese authorities of Eela to my representation, I lately undertook a journey to Imbal or Droz, for the purpose of examining into the reported qualities of a plant produced in that neighbourhood, and of which the accounts I had received seemed to border on exaggeration. This plant, called Prangos, is employed in the form of hay as winter fodder for sheep and goats, and frequently for neat cattle, but its seed when eaten by horses is said to produce inflammation of the eyes and temporary blindness. During a stay at Imbal of nearly a month, in which I was occupied principally in acquiring an acquaintance with various details respecting the plant, I drew up a letter on this subject to the Secretary of the Board of Agriculture of Britain, which I purpose to request the favour of having forwarded under cover to the Chairman of the Honourable the Court of Directors; and the whole will be transmitted to your address, with the envelopes unsealed, should you think proper to examine their contents.

"The properties of Prangos, as a food, appear to be heating, producing fatness in a space of time singularly short, and also destructive to the *Fasciola hepatica* or Liver Fluke, which in Britain, after a wet autumn, destroys some thousands of sheep by the rot,—a disease that to the best of my knowledge has in its advanced stages hitherto proved incurable. The last-mentioned property of itself, if it be retained by the plant in Britain (and there appears no reason for suspecting that it will be lost), would render it especially valuable to our country. But this, taken along with its highly nutritious qualities, its vast yield, its easy culture, its great duration, its capability of flourishing on lands of the most inferior quality and wholly unadapted to tillage, impart to it a general character of probable utility unrivalled in the history of agricultural productions. When once in possession of the ground, for which the preparation is easy, it requires no subsequent ploughing, weeding, manuring, or other operation, save that of cutting and of converting the foliage into hay.

"Of its duration I have two facts: viz. one, of its seeds having been carried westward along with those of yellow Lucerne above forty years ago, and sown on the eastern frontier of Kashmeer, where they vegetated, and of which the plants of the first growth still remain in a flourishing condition. In the second instance the seeds were transported eastward, and sown upon rocks near Molbee, where their plants flourished for about forty years; but in consequence of a long period of drought, during which there fell scarcely either rain or snow, the Prangos perished along with the crops of that district in general. From various facts it is conceived not unreasonable to presume that by the cultivation of this plant, moors and wastes hitherto uncultivated, and a source of disgrace to British agriculture, may be made to produce large quantities of winter fodder, and that the yield of highlands and of downs enjoying a considerable depth of soil may be trebled. I have made every precautionary arrangement in my power, by presents &c., for gathering, drying, packing, and transporting a large quantity of the seeds, and have left Mr. Guthrie (the apothecary) to superintend their operations: one cask will be transmitted through Kashmeer, and two others through Bushehar to your address. And I take the liberty of submitting to the Most Noble



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Prangos pabularia.

M. Gauci lith

Printed by Engelmann, Graf, Coindet & Co.

the Governor General in Council the probability of this plant being of use to the new settlers, our countrymen at the Cape of Good Hope, and to the colonists in general.

"As the Prangos has hitherto been of spontaneous growth alone, practices better adapted to the nature of the plant or of the country may be adopted at a future time; but from a view of its habitudes in its wild state, I venture to suggest that the seeds be dibbled singly into holes an inch deep and a foot apart, a short time before the rainy season. During three years the plants will be little productive, but in that interim they will not be in the way of any other surface-crop, should the proposition I shall further submit in conjunction with this culture be not approved. I have purchased and made arrangements for the keep of upwards of a hundred head of a race of sheep, the smallest perhaps known, but which in fineness of fleece may vie with the Merino, under the advantages of a much hardier constitution, and of a better carcase. By the time the Prangos will be fit to cut, this flock will probably admit of supplying drafts for transmission to the Cape; and for the convenience of the wool staple and of the woollen manufacture, I have divided the stock into blacks and into whites, to be kept apart; but the bodies alone of the latter are of this colour, the heads, and frequently the legs, being orange dun or black. Should the present arrangement fail, measures are taken for procuring future flocks, and the details will be found amongst my papers, should I fall, and they pass into British hands. In connection with the preceding speculation, it is respectfully submitted, that eight or ten pounds of the Prangos seed be transmitted, under the precautions which may be suggested for the preservation of their vegetative power, by the Superintendant of the Botanic Garden to the Governor of the Cape of Good Hope. Should they vegetate, it will be perfectly easy to procure a large supply of Prangos seed by the agreement I have made with Ribjhias, the Keuphun, and with Mahomed Khan, the Chummul of Droz, and of which the details will be seen in the note on Prangos seed attached to my letter to the Secretary of the Board of Agriculture.

"Yellow Lucerne.—This plant, which is also a spontaneous production of this country, is of a constitution more hardy than that of Europe, requires no other culture than that necessary for sowing it, and lasts in vigour for a long series of years. It is submitted, that as it naturally grows along with Prangos, it would be well to imitate this habitude. The joint yield is vastly greater than that of the richest meadow-land, and is produced in this country on a surface of a most sterile nature in regard to other herbage; hence is respectfully suggested the propriety of furnishing a few pounds of this seed to the Cape of Good Hope, to be sown along with the Prangos. I have furnished money to the Hakeem of Pushkoom for two sacks of Lucerne seed, but am not so sanguine as to this being pulled when in as perfect a state of ripeness as that of the Prangos; arrangements have been also made with the above-mentioned person to furnish more if called upon so to do."—William Moorcroft, *Superintendant of the Hon. Company's Stud, on deputation to Upper Asia.*

I shall conclude with an extract from an interesting account of the plant by Professor Lindley, printed in the Quarterly Journal of Science, vol. xix. p. 4—6.

"The Prangos Hay-plant is a perennial herbaceous plant, with a large fleshy root-stock, usually measuring at the top from eighteen to twenty-two inches in circumference, and formed by the aggregation of an infinite number of crowns or winter buds, clustered together at or above the surface of the ground. The crowns are closely covered over by the coarse fibrous remains of the old leaves, by which the buds must be effectually protected from frost or accidents when the plant is in a state of rest. From each crown rises an abundance of finely cut leaves, about two feet long when dried, of a highly fragrant smell, extremely similar to that of very good new clover hay. They are supra-decompound, quite smooth, with linear, entire, or three-parted segments; their principal petiole is slightly sheathing at the base, with a crisp thin margin; upwards it is solid, round, or slightly angular, with a smooth finely striated skin. Of the secondary petioles there are from six to ten opposite pairs, according to the vigour of the leaf: they are in all respects like the primary petiole, except being smaller and more compressed, and having the first pair of their segments proceeding from their very base. In these leaves the whole crop may be said to consist.

"From the centre of the leaves rises the flower-stem, which I have only seen in a young and mutilated state. Good specimens of the inflorescence have not reached me; but from some imperfect umbels of flowers I can state that the male and female flowers are produced upon distinct umbels. Of the male flowers the umbels are compound, shorter than the bracteæ by which they are subtended, and both axillary and terminal; the bracteæ are finely and deeply pinnatifid, with three-parted segments, of which the end lobe is broader than the rest, and often three-toothed. The involucres are both general and partial, each consisting of five or six membranous ovate-acuminate leaflets, which are shorter than the stalks of the umbellules or of the florets. At the base of the umbel are clustered several scarious rudiments of florets. The calyx consists of five distinct ovate minute sepals. The petals are five, lanceolate, spreading, incurved, with a minute dorsal nerve. The stamens are five, spreading, the same length as the petals, and inserted opposite the sepals, beneath a large, fleshy, slightly wavy discus, which surrounds two little processes, the rudiments of as many styles. The filaments are incurved, and quite smooth. The anthers large, square, innate, bilocular; each cell opening longitudinally with two valves. The female flowers have not yet been observed. The fruit is inferior, and consists of two united achenia, at maturity separating from base to summit from their common axis; it is oval-lanceolate, compressed, eight or nine lines long, and is crowned with two recurved styles, arising from the centre of a large, fleshy, wavy discus, and with the corky sepals of the persistent calyx. Of these achenia the commissure or point of union is nearly flat, and narrower than their transverse diameter. Of each the pericarpium is corky, with five primary juga or elevations, which are in the centre produced into a corky wavy wing, and on each side covered densely with coarse tubercles; there are no secondary juga, and the valleculæ or intervals are concave and smooth. The seed is of the same form as the pericarpium, from which it is easily separable; it is covered over with an indefinite number of colourless vittæ, both on the commissure and back; it has an involute horny albumen, and a minute, inverted, white embryo at its upper extremity; the cotyledons are flat and oval, the radicle rounded, and as long as the cotyledons."

Plate CCXII. represents a specimen of the plant as it was found among the hay sent to the Botanic Garden at Calcutta. Fig. 1. 2. Flower. 3. An umbellet of ripe fruit. 4. Detached fruit. 5. The same, cut across. 6. Segment of a very old root.

ADAMIA CYANEA. Tab. 213.

Adamia cyanea Wall. Tent. Flor. Napal. vol. 1. p. 46. t. 36. Decand. Prodr. Syst. Nat. vol. 4. p. 16.

Hydrangea Elagulia Herb. Hamilt. et Ejusd. Cat. MSS. No. 1091.

Habitat in apricis saxosis montanis Napaliæ, a Bechiaco usque ad convallem magnam. Floret Majo et Junio; fructificat Octobre—Decembre.

I have already given a detailed account of this remarkable and elegant plant in my Nipal Flora quoted above, in which I dedicated the genus to the memory of my deeply lamented friend and patron the late John Adam, Esq. of the Hon. East India Company's Service, for some time Governor General of India; one of the most excellent and honourable men who ever visited that country, and the steady and liberal promoter and encourager of every useful pursuit, especially those of natural history. Professor DeCandolle refers the genus to the family of *Saxifrages*, and suggests the near affinity, if not absolute identity, of *Cyanitis* of Reinwardt.

Plate CCXIII. Fig. 1. 2. Flower. 3. The same, dissected. 4. Detached petal, with two stamens of unequal length. 5. Ovary, cut transversely. 6. Stigma. 7. A panicle of ripe berries. 8. Detached berry. 9. The same, cut transversely. 10. Seed. 11. 12. The same, divided two ways. 13. Embryo.

CORNUS CAPITATA. Tab. 214.

Cornus capitata Wall. in Roxb. Flor. Ind. vol. 1. p. 434. Decand. Prodr. Syst. Nat. vol. 4. p. 273.

Habitat in montibus Napaliæ, provinciarumque Kamaon et Sirmore, florens sub pluviis, fructifera versus finem anni.

This beautiful species has been fully described by me in Roxburgh's Flora Indica. I found it on the top of mount Chandaghiry in Nipal, growing to the size of an apple tree, and covered with yellow heads of scentless flowers in the month of June. Its wood is very hard; the bark ash-coloured.

Plate CCXIV. Fig. 1. 2. Detached flowers. 3. Fruit. 4. 5. The same, divided two ways.

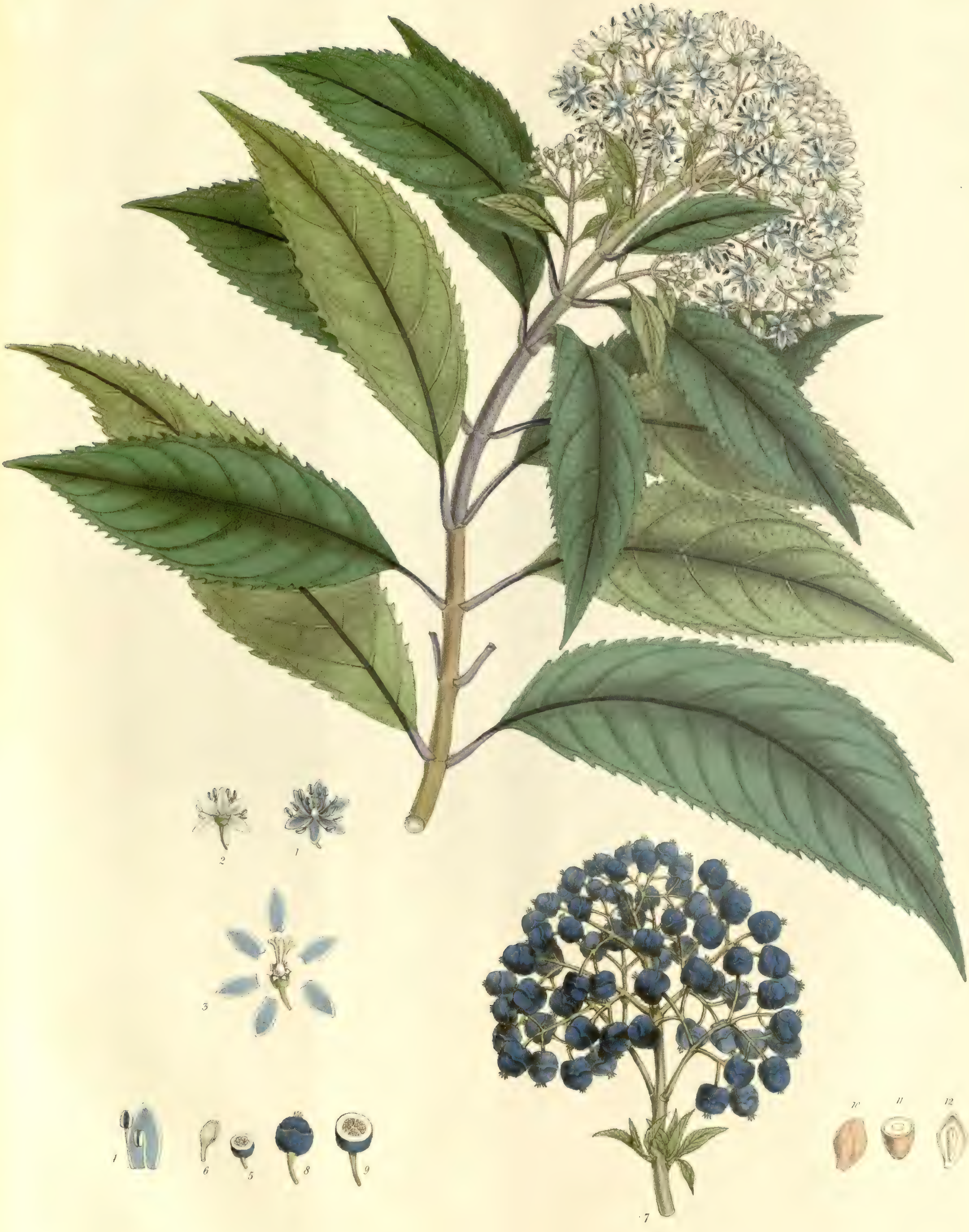
CLERODENDRUM DEFLEXUM. Tab. 215.

Foliis cuneato-oblongis, acuminatis, deorsùm angustatis, subtùs petiolisque longiusculis pubescentibus, integerrimis; corymbo terminali deflexo, pedunculato, pubescente, subinvolucrato; calycis colorati laciniis linearibus, conniventibus, tubo corollæ gracili dimidiò brevioribus.

In montibus Penang detexit Georgius Porter. In insula Singapur inveni 1822. Floret fructificatque mensibus Augusti et Septembris. In Horto Calcuttensi floret Januario.

Frutex 4-pedalis, erectus, ramosus. **Rami** obtusè quadrangulares, sulcati, mollitèr pubescentes. **Folia** opposita, patentia, petiolata, oblonga, cuspidato-acuminata, integerrima, vel parùm repandula, deorsùm contracta, basi rotundato-acutâ, nunc triangulari-acutâ utrinque subdentata, membranacea, 6-pollicaria usque ad pedalia, quin majora, suprà glabra, subtùs mollissimè pubescentia, nervoso-venosa, reticulata, imâ basi sub-trinervia, costâ intermediâ valdè prominente. **Petiolus** teres, pubescens, utrinque intumescens, 1½—2½-pollicaris, supernè sulcatus. **Corymbus** terminalis, solitarius, parvus, hemisphæricus, angulo recto insidens *pedunculo communi* divergenti-reflexo, cylindrico, tripollicari, cum pedicellis brevibus subcarnosis, trichotomis, sanguineo-rufis pubescens, mediò stipato pari opposito, lanceolato foliorum floralium, bipollicarium; ante anthesin totus corymbus pedunculusque cum foliolis aliquot bracteiformibus, subinvolucrantibus, deciduis rufo-sanguinei. **Flores** ex albo rosei, ternati, pedicellati, densi. **Calyx** unguicularis, sanguineus; *laciniæ* lineari-lanceolatæ, acutæ, apice conniventes. **Corollæ** *tubus* gracilis, teres, pollicaris, calyce duplò longior, extùs puberulus; *laciniæ* cuneato-oblongæ, obtusæ, subæquales, patulæ, margine rubellæ, tubo dimidiò breviores. **Stamina** ferè æqualia, recta, corollam excedentia, glabra, alba; *antheræ* lineares, flavicantes. **Ovarium** læve, globosum; *stylus* filiformis, longitudine staminum; *stigma* bidentatum. **Bacca** atropurpurea, lævis, globosa, magnitudine pisi, calyce persistente, subæquante suffulta.

Plate CCXV. Fig. 1. 2. Flower. 3. Calyx. 4. Corolla, opened.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Adamia cyanea.

Gorochand delt.

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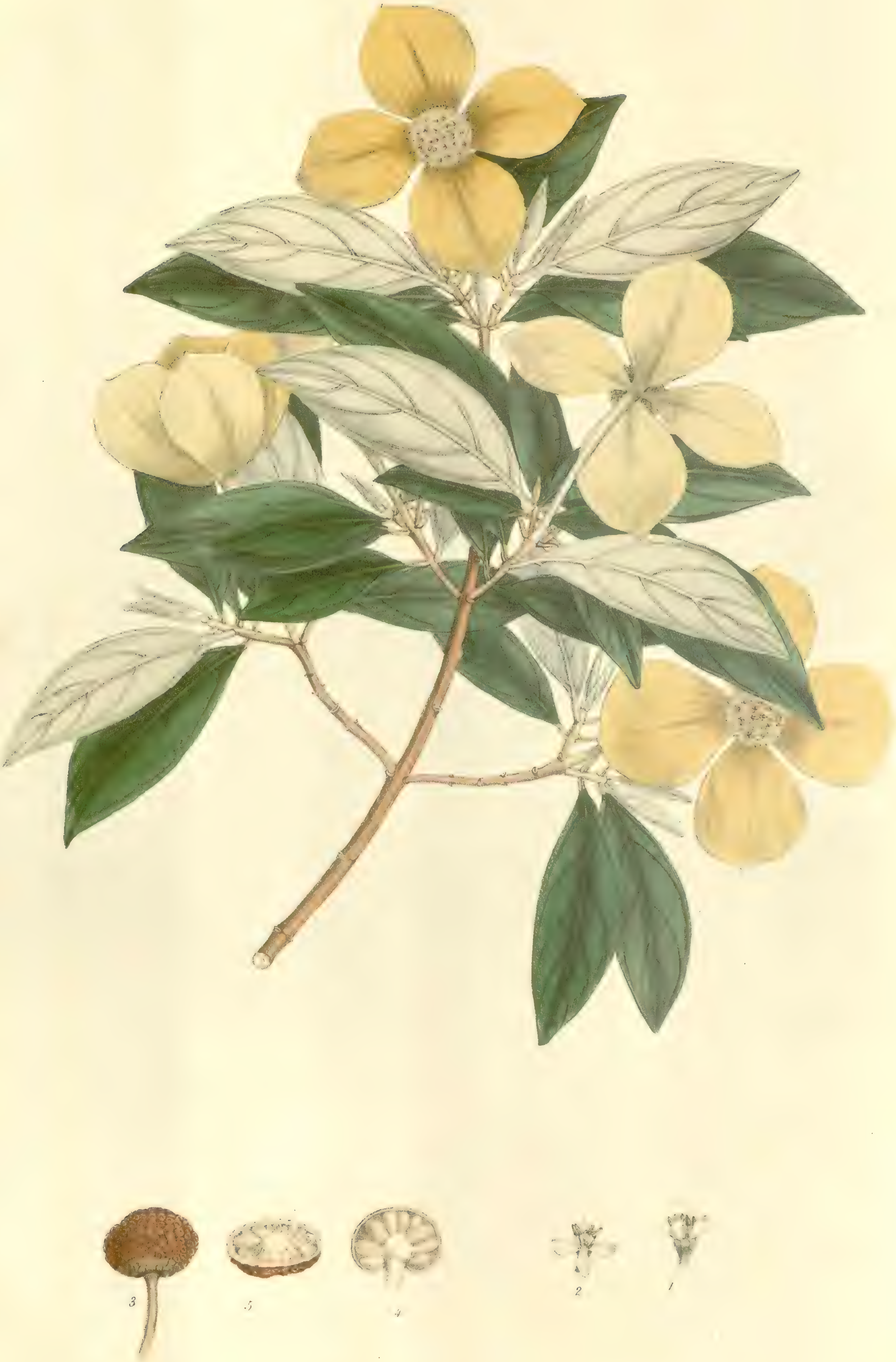
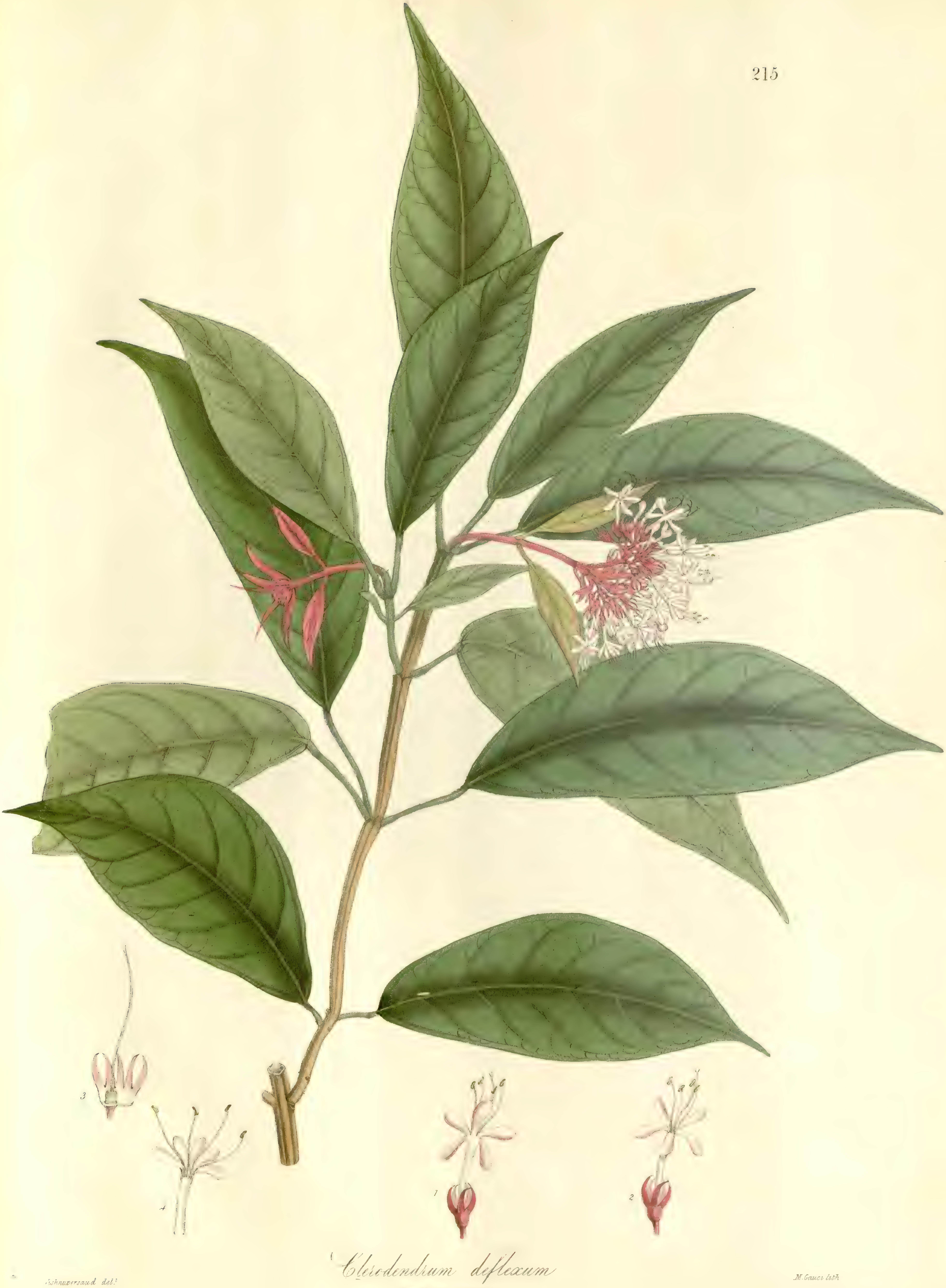


Cornus capitata.

Gorochand delᵗ

Printed by Engelmann & Co.

M. Gauci lith.



Clerodendrum deflexum

Schnuversaud del.

M. Gauci lith

d by Engelmann & Co.

PHYTOCRENE.

Flores dioici, in receptaculo globoso, carnoso aggregati. Masculi: Squama urceolata, quadriloba, suffultiens perianthium quadripartitum. Stamina quatuor; filamenta imâ basi coalita; antheræ versatiles. Pistilli rudimentum pilosum, pedicellatum, inter filamenta, ex basibus eorum coalitis rectè surgens. Fœminei . . . .

Classis Linneana: *Diœcia Tetrandria.*

Ordo naturalis: *Urticeæ?*

Frutices magni, altè volubiles, ligno mollissimo, pulcherrimè poroso, liquore redundante aqueo, limpido, potulento (unde nomen generis derivatum). Folia petiolata, alterna, magna, cordata, nunc palmata; in unica specie oblonga. Flores parvi, aggregati in capitula pisiformia, racemosa, corymbos maximos, oblongos, flaccidos, congestos, ex ipso trunci basi vel secus ramos inferiores progredientes sæpiùs formantia.

PHYTOCRENE GIGANTEA. Tab. 216.

Foliis lato-cordatis, basi sublobatis, subtùs villosis; racemis maximis, ad basin trunci densè congestis, nudis.

Crescit copiosè in sylvis densis oræ Martabaniæ, ad Amherst versus mare, florens mense Februarii.

Frutex verè giganteus, potiùs arbor dicendus, super alias arbores altissimè volubilis. Caulis cylindricus, sulcis aliquot profundis exaratus, e viridi griseus, glabriusculus, irregularitèr tuberculatus, variè tortus, ad basin proprio suo pondere terræ laxè incumbens, brachii, imò cruris dimensionem attingens. Ramuli graciles, longissimi, cylindrici, aculeolis brevibus, conicis, minutis, cinereis armati, densè vestiti villis canis, mollibus, ferrugineis, subreflexis, inæqualibus; *juniores* molliter tomentosi. Folia tantùm e ramis supremis ramulisque proveniunt; sunt magna, patentia, plana, petiolata, alterna, interstitiis longiora, lato-ovata, cordata, acuminata, integerrima, subsinuata, sæpiùs subtrilobata, lobis obtusis vel acutiusculis, sinu basis brevi, lobis lateralibus magnis rotundatis; spithamæa, quin pedalia, membranacea, suprà nitida, secùs vasorum tractus ferrugineo-villosula, subtùs mollitèr villosa, canescentia, distantèr nervosa, venis transversis, prominentibus, reticulatis, basi quinquenervia. Petioli cylindrici, crassiusculi, ferrugineo-villosi, pilisque brunneis nitidis conspersi, variè curvi, suprà sulcati, basi vix intumescente mediante articulatione tuberculo ramuli inserti, 2—3-pollicares. Stipulæ nullæ. Inflorescentia constat corymbis vel racemis compositis, maximis, cylindraceo-oblongis, 5—8 vel pluribus fasciculatis, subsessilibus, lateralitèr ramis inferioribus ipsove trunco insertis, flaccidis, pendulis vel terræ prostratis, spithamæis—pedalibus, duos tresve pollices diametro emetientibus, villosis. Sunt vero hi compositi ex racemulis innumeris undique sparsis et patentibus, valdè approximatis, pollicaribus vel sesquipollicaribus, digitum minimum crassis, sessilibus, gerentibus capitula florum 5—7, sparsa. Pedunculi omnes crassi, carnosi, villosi, indivisi; *communis* basi pennam scriptoriam vel cygneam emetiens, apicem versus sensìm attenuatus. Bracteola villosa, carnosa, caduca, lanceolata infra pedicellos capitulorum; nunc nulla. Flores masculi circitèr octo, minimi, inodori, conferti in receptaculo carnoso, globoso, pisi magnitudinem æquante, griseo, suffulto pedicello brevi, villosulo, cylindrico, carnoso. Squama (*calyx?*) monophylla, urceolata, 4-loba, nunc 4-partita, villosa, emarcescens, fusca; *lobi* obtusi. Perianthium squamâ paullò longius, 4-partitum, viridescens, villosum, intùs puberulum; *laciniæ* lanceolatæ, acutiusculæ, apice recurvatæ, æstivatione valvatæ. Filamenta 4, carnosa, alba, glabra, subulata, erecto-patentia, corollæ longitudine, ex ejusdem fundo orta, ibique per breve spatium coalita, cum laciniis alternantia. Antheræ magnæ, ovatæ, acutæ, versatiles, biloculares, utroque margine longitudinalitèr dehiscentes; *pollen* flavum, globosum. Rudimentum pistilli: corpusculum minutum, carnosum, oblongum, brevè pedicellatum, omninò obtectum setis erectis, violaceis, hyalinis, subhamosis, insertum centro basis filamentorum, hisce brevius. Flores fœminei haud visi.

This remarkable plant belongs perhaps to *Urticeæ*, notwithstanding its several obvious discrepancies from this family, both in regard to the leaves and flowers. I found it growing in forests close to the sea shore on the coast of Martaban, and my people told me they knew a similar plant in Chittagong. It forms a gigantic climbing shrub, extending sometimes over very large trees. The structure of the wood is exceedingly curious, and has been represented in the plate, together with the analysis of the flower, from a most beautiful drawing, for which I am indebted to my young friend Mr. William Griffiths, pupil of Professor Lindley of the London University, about to proceed to India as an Assistant Surgeon in the Hon. Company's service, whose extraordinary talents and knowledge as a botanist entitle him to the respect of all lovers of the science, and have been rewarded lately by the gold medal of the Company of Apothecaries.

The wood is exceedingly soft and porous, and on dividing the stem, which sometimes measures ten inches in diameter, or the stouter branches, a very large quantity of pure and tasteless fluid flows out, which is quite wholesome, and is drunk by the natives; a circumstance which I have endeavoured to express in the generic name (*Vegetable fountain*). The leaves are produced only from the uppermost slender and long branches; while the innumerable small heads of flowers are collected in dense fascicles of large flaccid racemes which issue from the lower and tortuous part of the stem (rarely from the first branches into which it divides), sometimes covering thickly a considerable space round its base, and giving the plant a most extraordinary and striking appearance.

I am acquainted with three other species, which were discovered in the mountains of Prince of Wales Island, by Mr. George Porter, and of which I subjoin the specific characters. I have never been so fortunate as to see the female inflorescence of any of them.

Phytocrene bracteata, foliis ovato-cordatis, sinuato-dentatis, integris, subtùs villosis; racemis axillaribus, pedunculis racemulorum in bracteam setiformem, longissimam desinentibus.

Phytocrene palmata, foliis palmato-cordatis, quinquelobis, subtùs ferrugineo-hirsutissimis; racemis axillaribus, ebracteatis.

Phytocrene oblonga, foliis integerrimis, oblongis, utrinque acuminatis, subtùs pubescentibus; racemis brevibus bracteolatis, axillaribus?

Plate CCXVI. All the dissections greatly magnified. Fig. 1. A head of flowers. 1 *a*. The same, divided vertically. 2. Detached flower, without its outer envelope. 3. The same, with its outer envelope. 4. Outer envelope laid open. 5. Unexpanded flower. 6. Flower opened. 7. Stamens, with the central body. 8. Central body detached. 9. Section of the same. 10. One of its hairs. 11. 12. 13. Stamens. 14. Pollen grains. 15. Fibrous cells of the endothecium. 16. Transverse section of one of the small branches. 17. Transverse section of one of the medullary rays. 18. Transverse section of the spongy part. 19. Dotted duct inclosed in woody fibre, showing that the former is composed of cylindrical vesicles or cellules, placed one upon the other. 20. One of these cellules more highly magnified. 21. A series of the same cellules, removed. 22. Longitudinal section of medullary rays. 23. Spotted vessel isolated.

CLEMATIS MONTANA. Tab. 217.

Clematis montana Hamilt. (olim Buchanan) in Dec. Syst. Nat. Regn. Veget. vol. i. p. 164. Ejusd. Prodr. v. i. p. 9.
Crescit in montibus Napaliæ, florens et fructifera mensibus Aprilis et Maji. In Kamaon legit Robertus Blinkworth.

Frutex magnus, ramosus, latè scandens, *caule* digitum sæpè emetiente, cylindrico, obducto cortice glabro, griseo, subspongioso, longitudinalitèr fisso et secedente. Rami longi, graciles, cinerascentes, ad insertionem foliorum tumidi, supernè puberuli; *recentes* purpurascentes, flagelliformes. Folia plura e gemmis oppositis fasciculatìm prodeunt, interstitiis sæpiùs breviora, ternata; *foliola* lanceolata, valdè acuminata, utrinque grossè et acutè serrata, nunc modò dente uno alterove, vel ferè integerrima, basi rotundato-acuta, utrinque pilis sericeis, adpressis conspersa, subtùs distantèr nervoso-venosa, subtrinervia, 2—3-pollicaria. Petiolus teres, pilosus, foliola longitudine æquans; *partiales* brevissimi. Pedunculi aliquot fasciculati, e gemmis foliorum orti, petiolis longiores, graciles, 3—5-pollicares, compressiusculi, pubescentes, 1-flori, nudi. Flos magnus, speciosus, ex albo roseus, nunc omninò candidus, gratissimè odoratus, diametro 2-pollicari. Involucrum nullum. Sepala petaloidea, ferè pollicaria, ovalia, cruciatìm patentissima, ciliata, subtùs sericeo-pilosula, tenuissimè multinervia, suprà reticulata, obtusa cum cuspide brevi canaliculata. Stamina numerosa patentia, sepalis dimidiò breviora; *filamenta* capillacea; *antheræ* lineares, longiusculæ, luteæ. Ovaria sericeo-barbata. Styli breviusculi, recurvati. Caryopsides plurimæ, lenticulares, glabræ, desinentes in caudam longam, tortam, sericeo-barbatam.

Plate CCXVII. Fig. 1. 2. Flower. 3. The same, dissected. 4. Ovarium.

CŒLOGYNE ELATA. Tab. 218.

Cœlogyne elata Lindl. Gen. et Spec. Orchid. p. 40.
Crescit in sylvis Napaliæ et Sillet; floret Februario et Martio; fructificat Aprili.

Planta satìs magna, speciosa, erecta, rigida, nitida. Rhizoma sublignosum, pennam cygneam usque ad digitum minimum crassum, cylindricum, repens, obtectum *squamis* magnis, aridis, coriaceis, fuscis, laxè involventibus, acutis, uti omnes plantæ partes (præter radiculos) lævibus, nitidis. Radiculæ crassiusculæ, cylindricæ, tomento denso, molli, pallido vestitæ. Pseudobulbi oblongi, vel ovato-oblongi, solitarii, diphylli subdistantes, nunc approximati, angulis aliquot obtusis notati, lignosi, 3—4-pollicares, basi hinc muniti *squamâ* unâ duabusvè maximis, lanceolato-ovatis, patentiusculis, subæquantibus, structurâ et colore istarum rhizomati. Folia erecta, oblongo-lanceolata, utrinque attenuata et acuta, coriacea, plana, suprà atroviridia, lucida, medio canaliculata, costâ in pagina inferiore pallidiore carinatâ, dodrantalia ad pedalia. Petiolus 3-pollicaris, canaliculatus, dorso convexus, basi dilatatus, alter alterum amplectens. Scapus solitarius, terminalis pseudobulbi, teres, gracilis, erectus, 6-pollicaris, rigidiusculus, nudus, apice subclavatus. Racemus terminalis, erectus, oblongus, 6-pollicaris, ante explicationem clavato-cylindricus, complanatus, obtectus *bracteis* unifloris, lanceolato-naviculularibus, pollicaribus, acutis, citò emarcescentibus et dilabescentibus, inferioribus vacuis, diutiùs perdurantibus, bifariè imbricantibus et basin pollicarem rachis racemi crassæ, cylindricæ, involventibus. Flores majusculi, candidi, sparsi, inodori, patentes. Petala patentia, ferè pollicaria, plana, oblongo-lanceolata, obtusiuscula; *interiora* duo linearia. Labellum sessile, convoluto-infundibuliforme, petalis vix longius, basi levissimè gibbosum, intùs cristis binis fimbriato-crenulatis, versus laminam flavicantibus, deorsùm albis, usque ad fundum percurrentibus: *lamina* triloba: lobi laterales breves, rotundati; medius ovato-cordatus, patens, semiunguicularis, suprà ocellis duobus magnis, flavis, lineisque totidem mediis, longitudinalibus, parallelis, sanguineis ornatus. Columna clavata, inclusa, apice marginato-dilatata, anticè plana. Anthera conica, semibilocularis. Pollinia 4 plana, clavata, basi filo granuloso geminatim sustenta. Ovarium clavatum, obsoletè sulcatum, semiunguiculare, suffultum pedunculo cylindrico, crasso, æquante. Capsula clavata, trigona, uncialis, erecta, basi attenuata.

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Phytocrene gigantea

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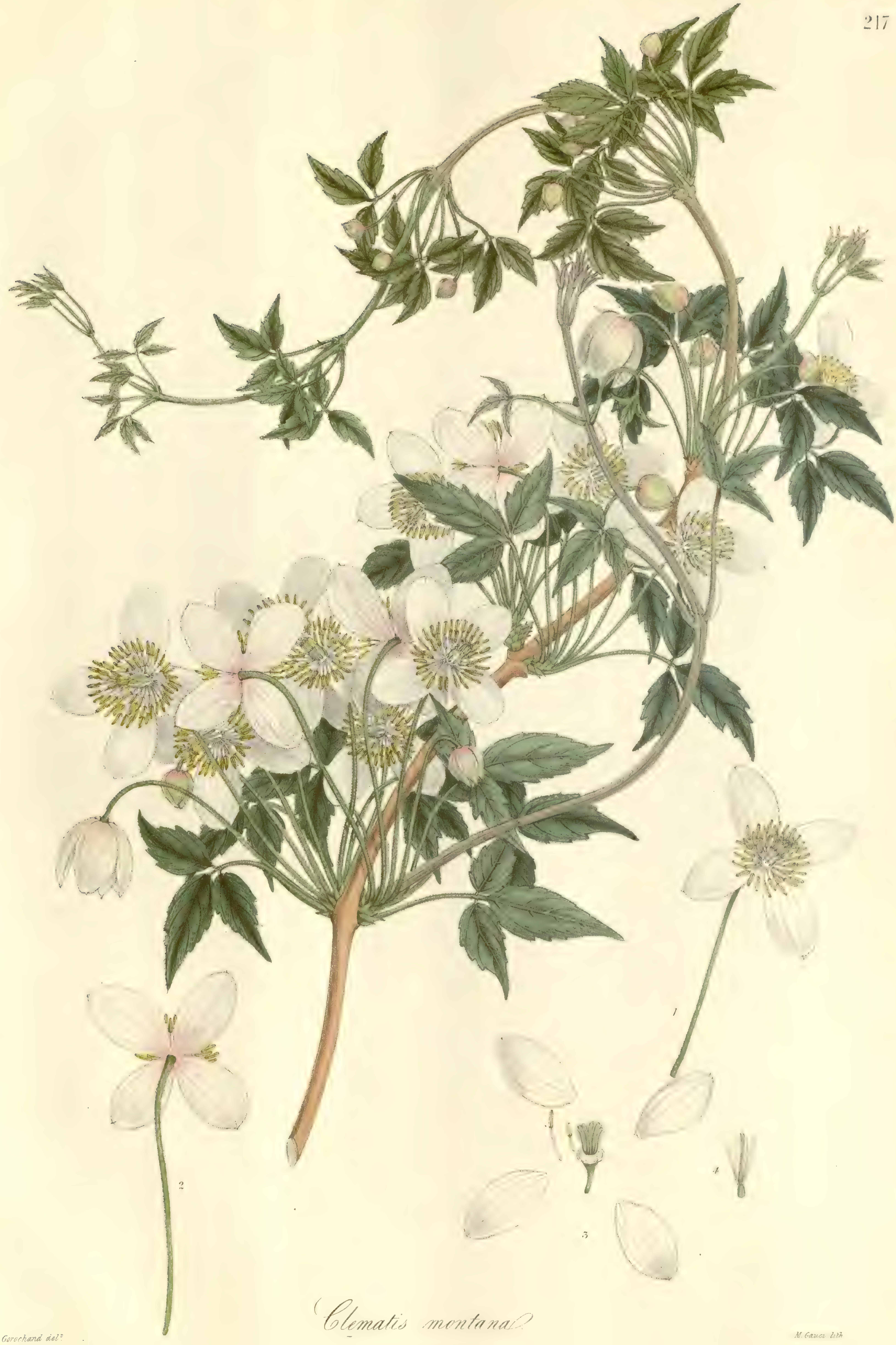
M. Gauci lith.



Clematis montana

Gorochand del^t.

M. Gauci lith

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Coelogyne elata.

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ÆGINETIA PEDUNCULATA. Tab. 219.

Subcæspitosa caulescens; pedunculis elongatis, terminalibus, unifloris.
Orobanche pedunculata Roxb. Hort. Beng. p. 45. et ejusd. MSS.
Habitat in Bengala, infra gramina altiora, præcipuè varias species Bambusæ, eorum radicum parasitica(?). Viget, floret fructificatque sub pluviis.

Planta valdè singularis et dùm florens speciosissima, aphylla, erecta, palmaris, subcæspitosa, carnosa, glaberrima, texturæ mollis, fragilis, trita odore ferè agaricino. Radix carnosa, cinerascens, divisa in ramulos breves, cylindricos. Scapi aliquot erecti, pennam cygneam crassi, subcylindrici, hinc indè irregularitèr obsoletèque flexuosi, 2—3-pollicares, indivisi, primùm flavi, deinceps atrosanguinei, muniti *squamis* subadpressis, carnosis, sparsis, triangulari-ovatis, acutis, inæqualibus, lineas circitèr tres longitudine emetientibus, concoloribus, emarcescentibus. Pedunculi pauci, terminales, bracteis interspersi, cylindrici, longitudine inæquales, scapum superantes, longiores 2—3-pollicares, purpurascentes, 1-flori, nudi. Flores magni, levitèr nutantes, inodori. Calyx monophyllus, spathaceus, oblongus, parùm compressus, acutus, dorso latiusculo subsulcatus, subtùs ferè ad basin attenuatam fissus, parùm ventricosus, flavus, mucilagine copiosâ limpidâ intùs repletus, sesquipollicaris. Corolla speciosissima, tubulosa; *tubus* amplus, cylindricus, parùm incurvus, basi contractus, fuscescens, intùs flavus; *limbus* patens, atropurpureus, diametro pollicari, obsoletè bilabiatus, 5-lobus; *lobi* ferè æquales, subrotundi, minutìm dentato-crenulati, tubo dimidiò breviores, labii inferioris intermedius maculâ amplâ, suborbiculatâ, flavâ notatus. Faux magna, pervia, flava. Stamina 4 supra fundum corollæ contractum inserta, tubo breviora, inclusa; *filamenta* alba, carnosa, teretia, curva, subæqualia, apice conniventia; *antheræ* conico-infundibuliformes, albæ, per pares connexæ, vertice 1-loculares, inferiores deorsùm productæ in calcar breve, subconicum, obtusum. Ovarium ovatum, carnosum, 2-loculare, polysporum. Stylus cylindricus. Stigma in fauce corollæ magnum, carnosum, cordato-peltatum, posticè puberulum. Capsula magnitudine nucis avellanæ, subrotunda, farcta, flavescens, lævis, stylo persistente coronata, bilocularis, demùm irregularitèr bivalvis. Semina minutissima, valdè numerosa, fusca, undique inserta receptaculis duobus crassissimis, carnosis, convoluto-rugosis, semiovatis, valvis oppositis.

Plate CCXIX. Fig. 1. Calyx. 2. Corolla, opened. 3. Detached stamens. 4. Pistil. 5. Ovary. 6. Capsule. 7. The same, cut across. 8. Two placentæ and seeds.

HYPERICUM CORDIFOLIUM*. Tab. 220.

Hypericum cordifolium (Chois. MSS.) Decand. Prodr. vol. 1. p. 545.
Habitat in montibus Napaliæ, florens initio anni.

Frutex valdè elegans, pedalis bipedalisque, paniculatus, omninò glaber. Rami longiusculi et graciles, cylindrici, cortice glabro, fusco, nitido; supernè ramulos plures breves et simplices, subtetragonos emittentes. Folia numerosissima et patentissima, valdè approximata, sessilia, oblongo-lanceolata, cuspidato-acuta, basi subcordatâ amplexicaulia, coriacea, pellucido-punctulata, lineolisque rubescentibus diaphanis notata, lævia, glauca et opaca, pollicaria ad sesquipollicaria, costâ ad paginam inferiorem elevatâ, nervis inconspicuis; ramulorum multò minora ferè bracteiformia. Flores magni, aurei, terminales, ternati, pedunculati, inodori, paniculam ramorum ovatam formantes. Pedunculus filiformis, teres, pollicaris, mediò munitus *bracteis* duabus oppositis, ovatis, sessilibus, semiunguicularibus. Sepala ovata, acuminata, apicem versus purpurascentia, basi coalita. Petala patentissima, obliquè ovata, hinc apice acuta, ½-pollicaria, calyce duplò majora. Stamina valdè numerosa, corollâ breviora, inæqualia; *filamenta* capillaria. Styli 5 longitudine staminum.

Plate CCXX. Fig. 1. 2. Flower. 3. The same, dissected. 4. Stamens. 5. Pistil.

HENSLOWIA.

Calyx monosepalus, urceolatus, quinquefidus. Corolla nulla. Stamina quinque, brevia, incurva, sinubus calycis inserta, laciniis alternantia; filamenta carnosa; antheræ biloculares, loculis distantibus. Ovarium liberum, subglobosum, biloculare, polysporum; ovula placentæ centrali inserta. Stylus cylindricus. Stigma convexum, obsoletè bilobum. Fructus . . . .

Classis Linneana: *Pentandria Monogynia.*

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* It is requested that the name on the Plate may be altered to that here given.

Ordo naturalis . . . .

Arbuscula ramosa; folia ovata, integerrima, brevè petiolata, cum ramis exstipulatis opposita. Flores minimi, dispositi in racemos gracillimos, oppositos, axillares vel terminales, paniculatos.

Dedicavi hoc genus novum, cujus locus in ordine naturali mihi prorsùs ignotus, amico honoratissimo et æstumatissimo Johanni Stevensio Henslow, A.M. Societatis Linneanæ Socio, quondam Mineralogiæ, nunc Botanices in Universitate Cantabrigiensi Professori, totius historiæ naturalis peritissimo, botanico et geologo acutissimo et indefesso.

HENSLOWIA PUBESCENS. Tab. 221.

Foliis ovatis, acutis, subtùs ramis racemisque pubescentibus.

In montibus insulæ Penang legit Georgius Porter.

Arbuscula. **Rami** oppositi, patentes, basi subgemmaceo-bracteati, cylindrici, glabri, cinerei; superiores quadrangulares novellique pubescentes. **Folia** opposita, patentia, brevè petiolata, interstitiis duplò triplòve longiora, 3—4-pollicaria, subcoriacea, ovata, acuta, integerrima, basi acutiuscula, suprà lævia, nitida, subtùs mollia et pubescentia, costâ mediocri, nervis gracilibus, suboppositis, obliquis, versus marginem arcuatis et anastomosantibus, venisque reticulatis. **Petioli** unguiculares, pubescentes, subtùs convexi, suprà planosulcati. **Stipulæ** nullæ. **Flores** valdè parvi, magnitudine seminis sinapis, globosi, viridescentes, densè dispositi in racemos gracillimos, teretes, 4—5-pollicares, rectos, patentissimos, oppositos, subsessiles, pubescentes; horum quinque tresvè formant paniculam terminalem vel axillarem brachiato-patentissimam, pyramidatam, brevè pedunculatam. **Pedunculi** pube brevi, cinerascente molles; *communis* quadrangularis, crassitie pennæ columbinæ, vix apice dilatatus, infra racemos unciam longus, interque eos semipollicaris vel pollicaris; *partiales* unguem longi, basi *bracteolis* duabus lanceolatis, oppositis, deciduis, desinentes in *rachin* filiformem, angulosam. **Pedicelli** patentissimi, capillacei, vix lineam longi, undique sparsi et approximati, uniflori, suffulti *bracteolâ* subulatâ, subæquante, acutâ. **Calyx** urceolatus, 5-fidus, extùs pubescens; *laciniæ* lanceolatæ, valdè acutæ. **Corolla** nulla. **Filamenta** 5 carnosa, glabra, brevissima, sinubus inter lacinias intùs inserta, hisce multò breviora, incurva. **Antheræ** biloculares; loculi parvuli, longitudinales, distincti connectivo crasso, lato, subtruncato. **Pistillum** calyce duplò longius. **Ovarium** globosum, sessile, nudum, pube capitellatâ canâ copiosâ obsitum, 2-loculare; *ovula* numerosa, cuneiformia, placentæ centrali subventricosæ densè inserta, transversalia. **Stylus** crassus, cylindricus, exsertus, ovarii diametrum vix æquans, puberulum. **Stigma** glabrum, convexum, carnosum, obsoletè bilobum.

I am quite ignorant of the natural family to which this tree belongs. Mr. Brown has been so good as to point out to me the striking resemblance of the branches and leaves, especially the abrupt termination of the former, to the *Oleinæ*, particularly to *Syringa;* but beyond this all further relation between these plants seems to cease. I am acquainted with another species, a native of Penang, which resembles ours very closely, except in being smooth, and having the leaves a little more lengthened; of this I will add the specific character below. Unfortunately I have not seen the fruit of either; but there are sufficient data in the inflorescence to establish these plants into a distinct new genus, which I feel great pride in having the honour of dedicating to my highly valued and esteemed friend Professor Henslow of Cambridge, a most excellent man, an ardent and distinguished botanist, and a very eminent geologist. For the drawing I am indebted to the kindness of Mr. Griffith.

Henslowia glabra, foliis ovatis, valdè attenuatis, obtusis, utrinque lævibus, ramis racemisque glabris.

In montibus Sillet detexit DeSilva. Floret Decembre.

Plate CCXXI. Fig. 1. A portion of a raceme, highly magnified, as are also all the other parts. 2. Flower, the pistil being removed. 3. Part of the calyx, with the stamens. 4. Pistil. 5. Ovary, opened.

ZALACCA EDULIS*. Tab. 222, 223, & 224.

Zalacca edulis Reinwardt et Blume in Schult. Syst. Veg. vol. 7. part 2. p. 1334.

Zalacca Rumph Herb. Amboin. vol. 5. p. 114. t. 57. fig. 2.

Calamus Zalacca Roxb. Hort. Beng. p. 72.

Crescit in Amboina (Rumphius), in Java (Reinwardt et Blume). Ipse observavi in sylvis secus ripas fluminum Martabaniæ Saluen et Attran, et ad Chappedong oræ Tenasserim; fructiferam mense Februarii. In Horto Botanico Calcuttæ mascula planta e Sumatra allata floret sub pluviis.

As my generous friend Professor Von Martius has done me the favour to undertake the detailed description of my Palms, and of this species among the rest of that family, I have only to make a few observations on it in this place.

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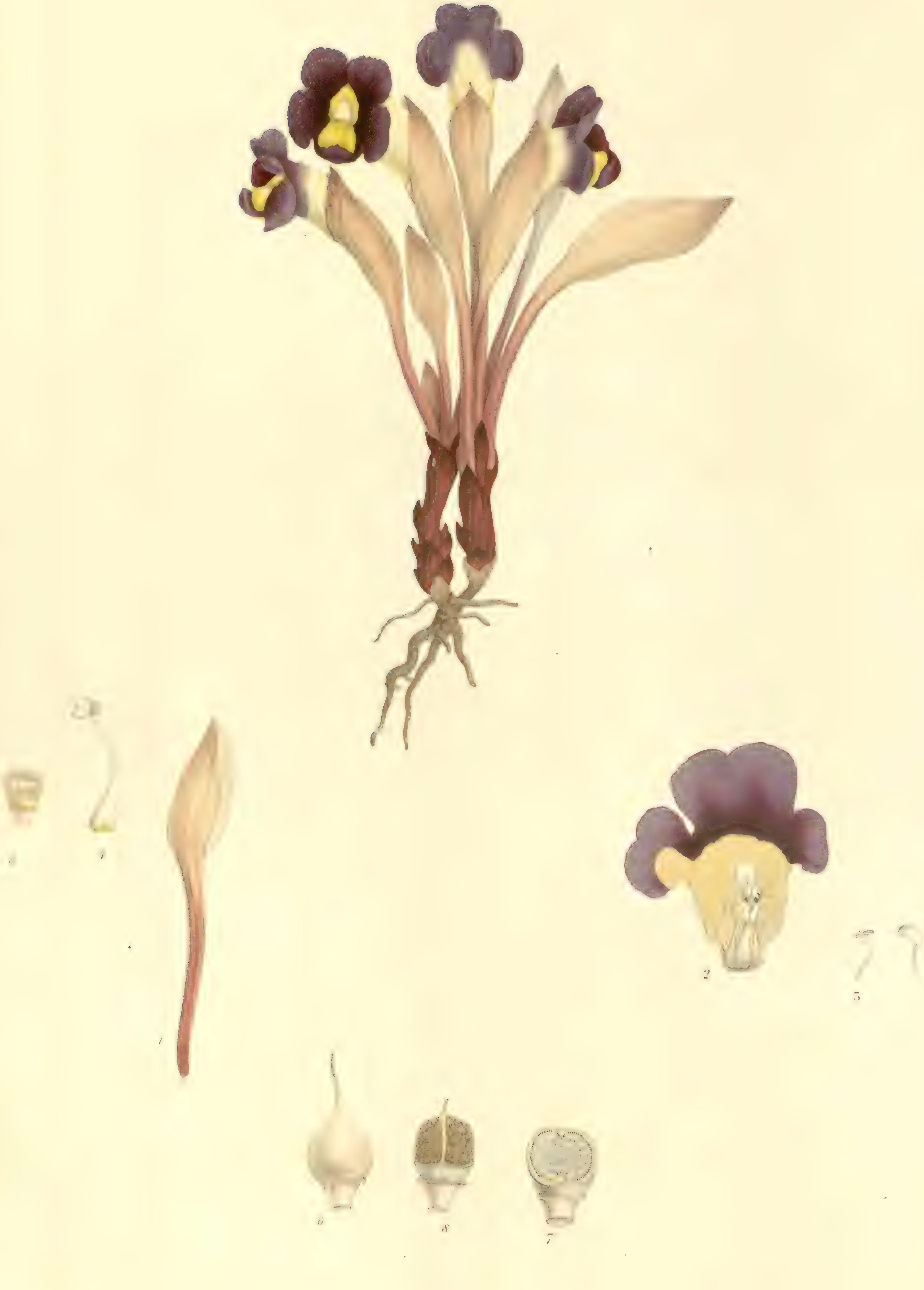
[*] The name on the Plate should be altered to that here given, published in 1830 in the valuable work of my late much lamented friend Professor Schultes of Landshut, which I hope will be continued by his worthy son.



Aeginetia pedunculata.

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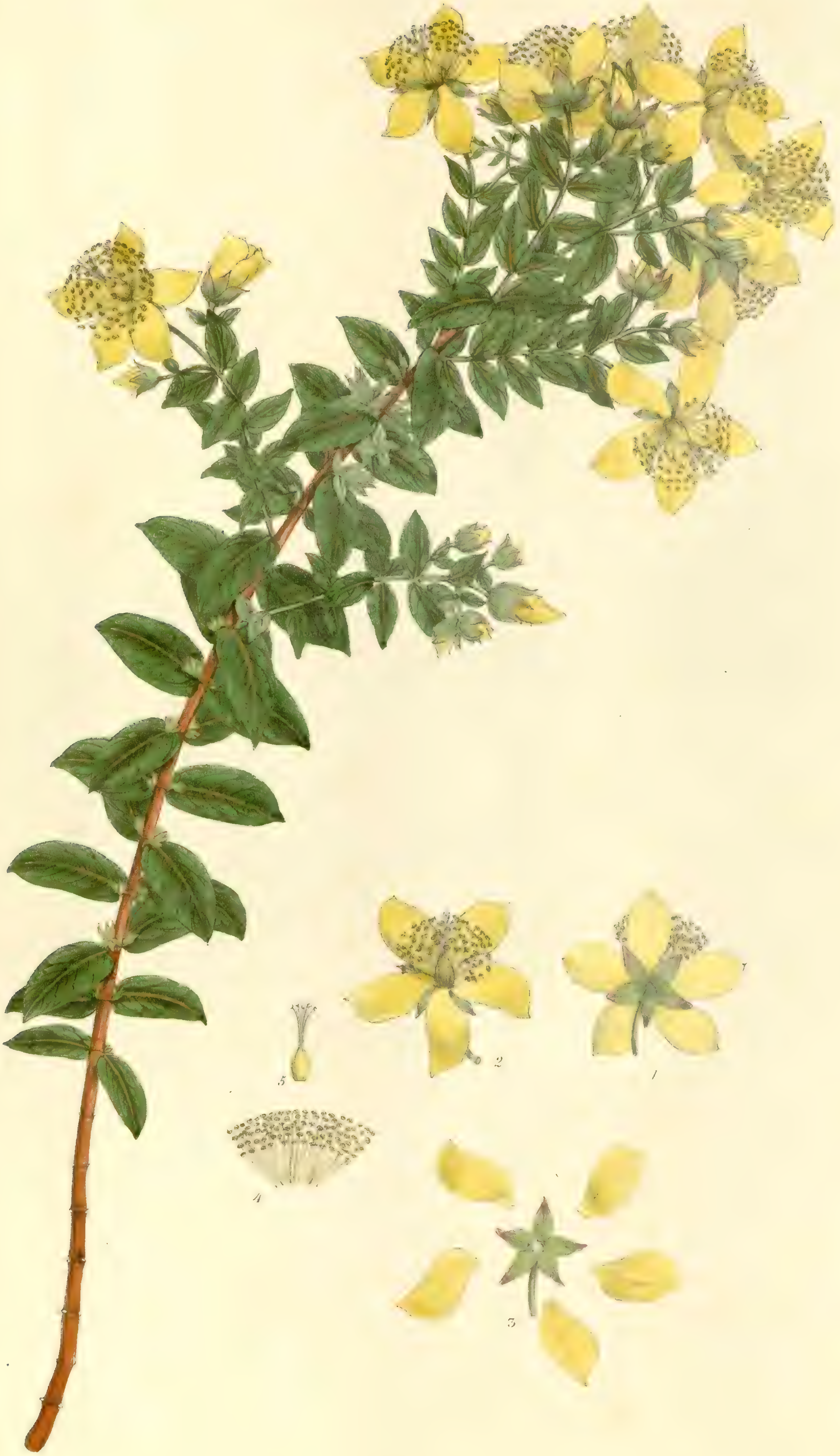
M. Gauci lith.



Hypericum bracteatum.

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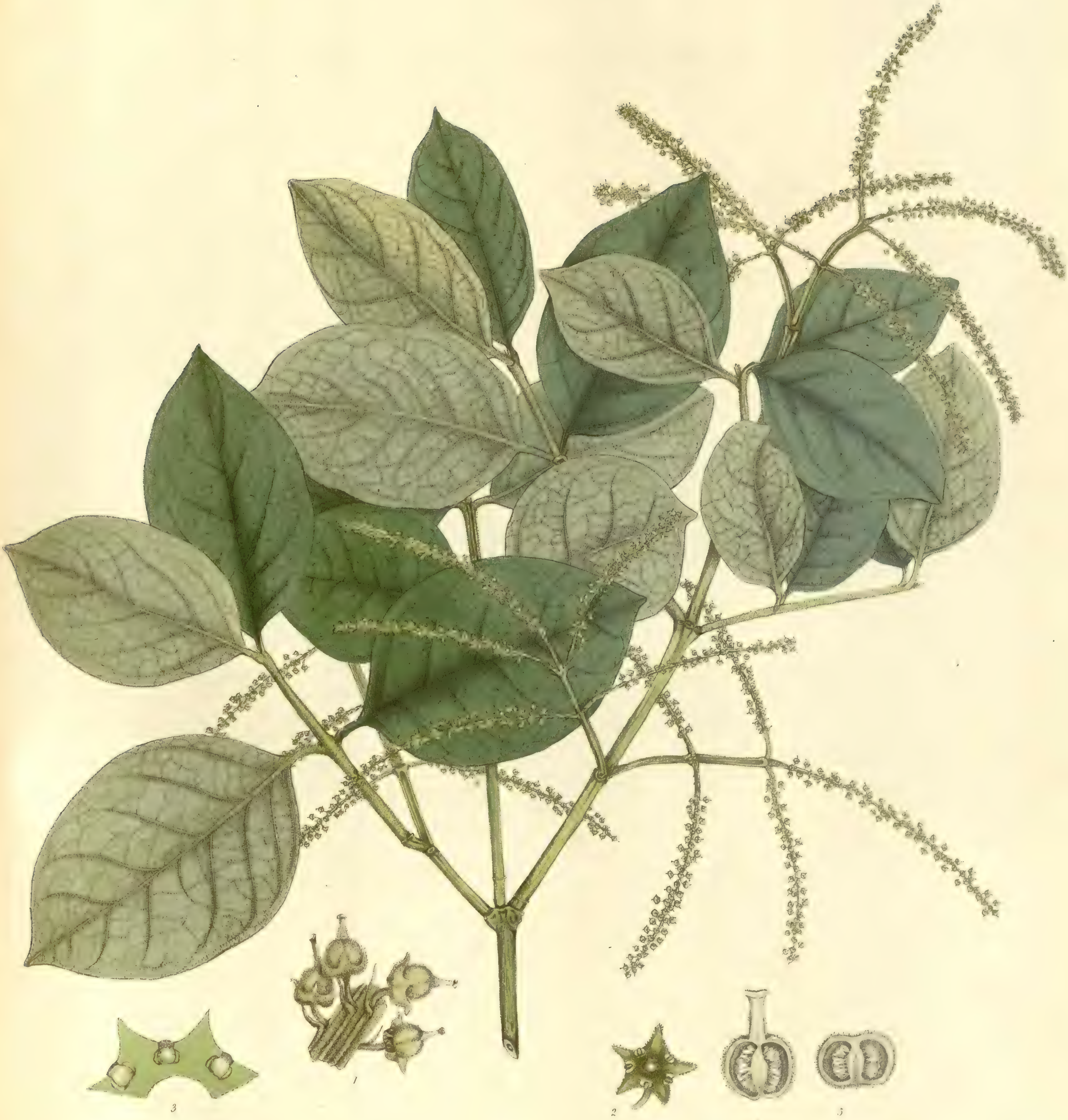

Henslowia pubescens.

W Griffith de.

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222.223.

Vishnupersaud del^t.

Zalacca. Rumphii.

M Gauci lith.

Zalacca Rumphii.

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The plant grows to a very large size, measuring from sixteen to twenty feet in height, and forming extensive thickets, which are formidable on account of the number of large, flat, and very sharp thorns with which the dorsal rib and petioles of the leaves are armed, and which are penetrable only by wild beasts. It is not used for any particular purpose; but the fruit is much sought after by the Burmese on account of the fleshy and juicy covering of the seeds, which has a pleasantly acid and refreshing taste.

Plate CCXXII and CCXXIII. The whole shrub greatly reduced; with male inflorescence, one of the branches of which has produced a new plant with roots. Fig. 1. A detached male spadix, of the natural size. 2. 3. Flower. 4. Calyx. 5. Corolla.

Plate CCXXIV. The principal figure exhibits a cluster of ripe fruit, natural size. Fig. 1. Part of the petiole of a leaf, natural size. 2. Detached leaflet, also natural size. 3. Berry. 4. The same, divided horizontally. 5. A scale, detached from the outside of the fruit. 6. Seed, with its arillus. 7. The same, cut longitudinally.

LORANTHUS PENTAPETALUS. Tab. 225.

Loranthus pentapetalus, Roxb. Flor. Ind. vol. 2. p. 211. Decand. Prodr. vol. 4. p. 295.

Habitat in Sillet, et in convalli minore Napaliæ, Noakote dicta; illîc mense Junii, hîc mensibus Februarii et Martii florens.

Plate CCXXV. Fig. 1. 2. Flower. 3. The flower, opened.

VITEX HETEROPHYLLA. Tab. 226.

Foliis quinatis; foliolis ovato-oblongis, valdè acuminatis, integerrimis, lævibus; paniculâ terminali, brachiatâ; floribus pubescentibus, cymosis.

Vitex heterophylla, Roxb. Hort. Beng. p. 46.

Habitat in Bengala orientali ad Tipperam. In Horto Botanico Calcuttæ floret tempore anni calido.

Arbor magna, ramosa et umbrosa. Ramuli sordidè grisei, quadrangulares, foliaque glaberrima. Folia opposita, patentia, petiolata, quinata, rarò ternata. Foliola ovato-oblonga, valdè acuminata, integerrima, basi acuta, intermedium 5—7-pollicare, lateralia sensìm minora breviùsque petiolulata, coriacea, saturatè viridia, nitida, subtùs nervoso-venosa reticulataque. Petiolus communis 3-pollicaris, teneriusculus, suprà planus; *partiales* pollicares vel infrà, foliorum exteriorum semiunguiculares. Panicula ampla, terminalis, sessilis, constans corymbis oblongis, brachiatis, oppositis, approximatis, inferioribus 6-pollicaribus. Pedunculi tetragoni, glabri; *pedicelli* brevissimi, puberuli. Flores majusculi, ochroleuci, ternati, dispositi in fasciculos approximatos, rotundatos, bis tervè dichotomos, suffultos basi et ad bifurcationes *bracteolis* linearibus, subpersistentibus. Calyx ovatus, lineam circitèr longus, remotè et brevitèr 5-dentatus, adpressè pubescens. Corolla calyce triplò major, extùs adpressè cano-pubescens; *tubus* levitèr compressus, flavescens; *limbi* bilabiati *labium superius* breve, acutè bidentatum; *inferius* trilobum, lobi laterales oblongi, obtusi, intermedium ovatum, purpureum; *faux* purpureo-punctulata. Stamina glabra, exserta, didynama; *antheræ* fuscescentes, bilobæ, lobis divergentibus. Stigma longitudine circitèr staminum, bilobum, acutum.

Plate CCXXVI. Fig. 1. Flower. 2. Calyx and Pistil. 3. Corolla, opened. 4. Detached stamen.

HYMENOPOGON PARASITICUS. Tab. 227.

Hymenopogon parasiticus Wall. in Roxb. Flor. Ind. vol. 2. p. 157. Decand. Prodr. vol. 4. p. 351.

Super arborum truncos et ramos primarios, rupesque radicans in montibus Napaliæ tàm inferioris quàm superioris. Floret Junio et Julio; fructificat Decembre et Januario.

Plate CCXXVII. Fig. 1. Calyx opened, with the pistil. 2. Corolla, opened. 3. 4. Ovarium, dissected. 5. Ripe capsule. 6. The same, divided horizontally. 7. The same, divided vertically. 8. A detached seed.

POTENTILLA ARBUSCULA. Tab. 228.

Potentilla Arbuscula Don. Prodr. Flor. Napal. p. 229. Decand. Prodr. Syst. Nat. vol. 2. p. 580.
Potentilla rigida Wall. Catal. Herb. Procur. Ampliss. Angl. Ind. Orient. num. 1009.
Incolit alpes Himalayæ ad Gossain-Than et Bhuddrinath, florens sub pluviis, mensibus Julii et Augusti.

Frutex rigidus, adscendens, basi repens, cæspitoso-ramosissimus, pedalis bipedalisque. Radix divisa in fibras numerosas, longas, teretes. Caulis valdè rigidus, usque ad digitum minimum crassus, fuscus, lævis, nitidus, epidermide fibroso-secedente. Rami admodùm numerosi et subdivisi, cylindrici, fusci, stipulis emarcidis undique obtecti. Folia densè approximata, alterna, patentia, petiolata, sesquipollicaria, inferiora pinnata, bijuga cum impari, superiora ternata; *foliola* ovato-lanceolata, nunc subcuneata, unguem longa, integerrima, utrinque acutiuscula, coriacea, subsessilia, suprà nitida, villis longis, sericeis, decumbentibus obsita, subtùs glabriora, costâ nervisque paucis prominentibus, parciùs villosis; *novella* villis copiosis, sericeis, fulgentibus lanata. Petiolus *communis* unguicularis, villosus. Stipulæ ad basin petioli longissimæ, oblongæ, acutæ, membranaceæ, fuscæ, erectæ, subimbricantes, persistentes. Flores terminales, solitarii, flavi, diametro pollicares, suffulti *pedunculo* gracili, tereti, barbato, sesquipollicari, mediò stipato bracteolâ foliaceâ, sæpiùs simplici, stipulatâ. Calyx duplici serie 15-phyllus, extùs lanatus, intùs glaber; *series exterior* constat foliolis inæqualibus, lanceolatis vel subovatis, nunc bilobis vel bipartitis; *interior* exteriore paullò brevior constat foliolis lato-ovatis, acutis. Petala patentissima, ovato-subrotunda, semiuncialia, obtusa, calyce 4-plò longiora. Stamina numerosa, brevia. Pistilla villosa. Receptaculum densè villoso-barbatum.

CCXXVIII. Fig. 1. 2. Flower. 3. Two exterior leaflets of the calyx, with an opposite interior. 4. Stamens. 5. Pistil.

FAGRÆA AURICULATA. Tab. 229.

Fagræa auriculata (Gulielmi Jack) Wall. in Roxb. Flor. Ind. vol. 2. p. 34 et 574. Jack in Malayan Miscell. vol. 2. num. 7. p. 82.
Willughbeia auriculata Linn. Syst. Veg. ed. Spreng. cur. poster. p. 71.
Crescit in Singapur et insulis vicinis (Jack et Wall.); in Sumatra ad Tappanuly (Jack). Fructifera Octobre.

To the description which I have given in the Flora Indica I shall add the following extract of an account by the late Mr. Jack, contained in the second volume of the interesting, but unfortunately very scarce, Malayan Miscellanies, of which the botanical papers will be successively inserted in the excellent and valuable *Botanical Miscellany* of Professor Hooker.

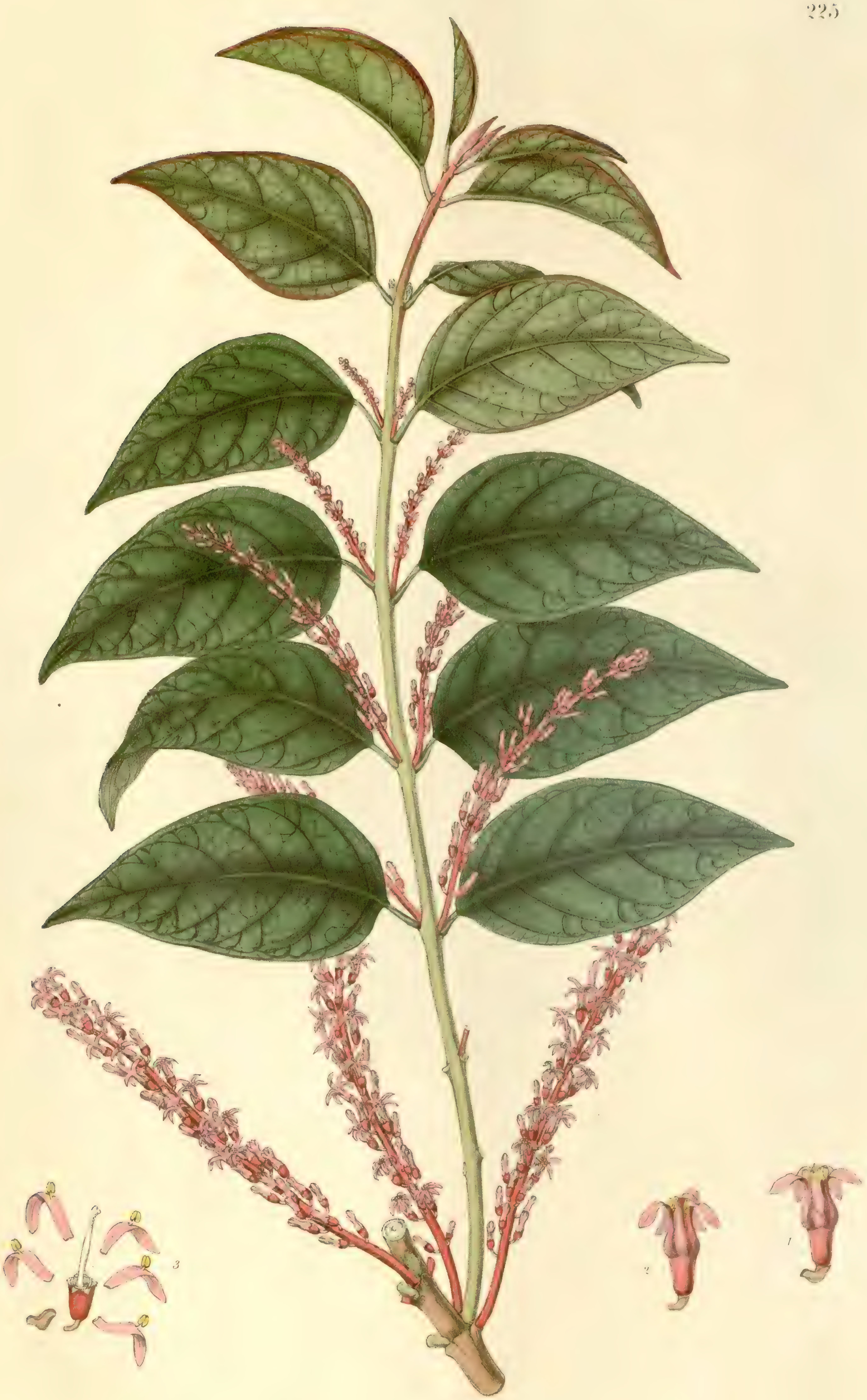
"The *F. auriculata* is a large shrub, and from the size of its flowers is the most splendid of the genus. I originally met with it at Singapore, but have since found it also at Tappanuly. The following particulars may be added to the description given by Dr. Wallich. Flowers terminal, generally three, rarely five, on short thick pedicels; each embraced by four opposite bracts, of which the outer two are the smallest. Corolla very large, yellowish white. Stamina inserted near the bottom of the tube. Stigma large and flattened. Ovary 2-celled, polysporous; the edges of the placentæ revolute. Fruit as large as a duck's egg, acuminated by part of the persistent style; seeds numerous, nidulant."

Plate CCXXIX. A branch, with nearly ripe fruits.

LORANTHUS VESTITUS. Tab. 230.

Loranthus vestitus Wall. in Roxb. Flor. Ind. vol. 2. p. 218. Decand. Prodr. vol. 4. p. 302.
Habitat in montibus Napaliæ, arborum parasiticus, florens per totum ferè annum.

Plate CCXXX. Fig. 1. Flower. 2. Corolla, opened. 3. Calyx and pistil.



Loranthus pentapetalus.

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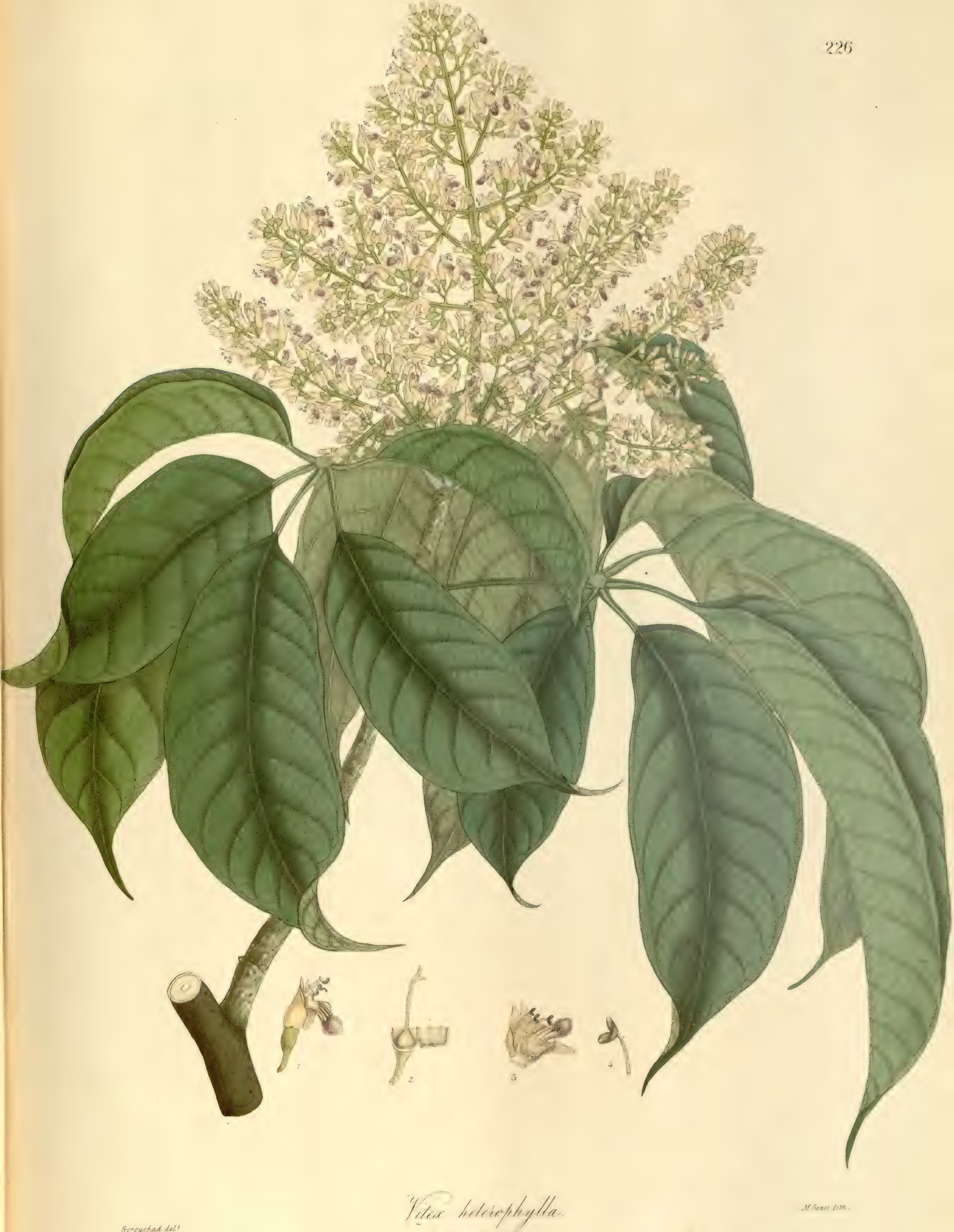

Vitex heterophylla.

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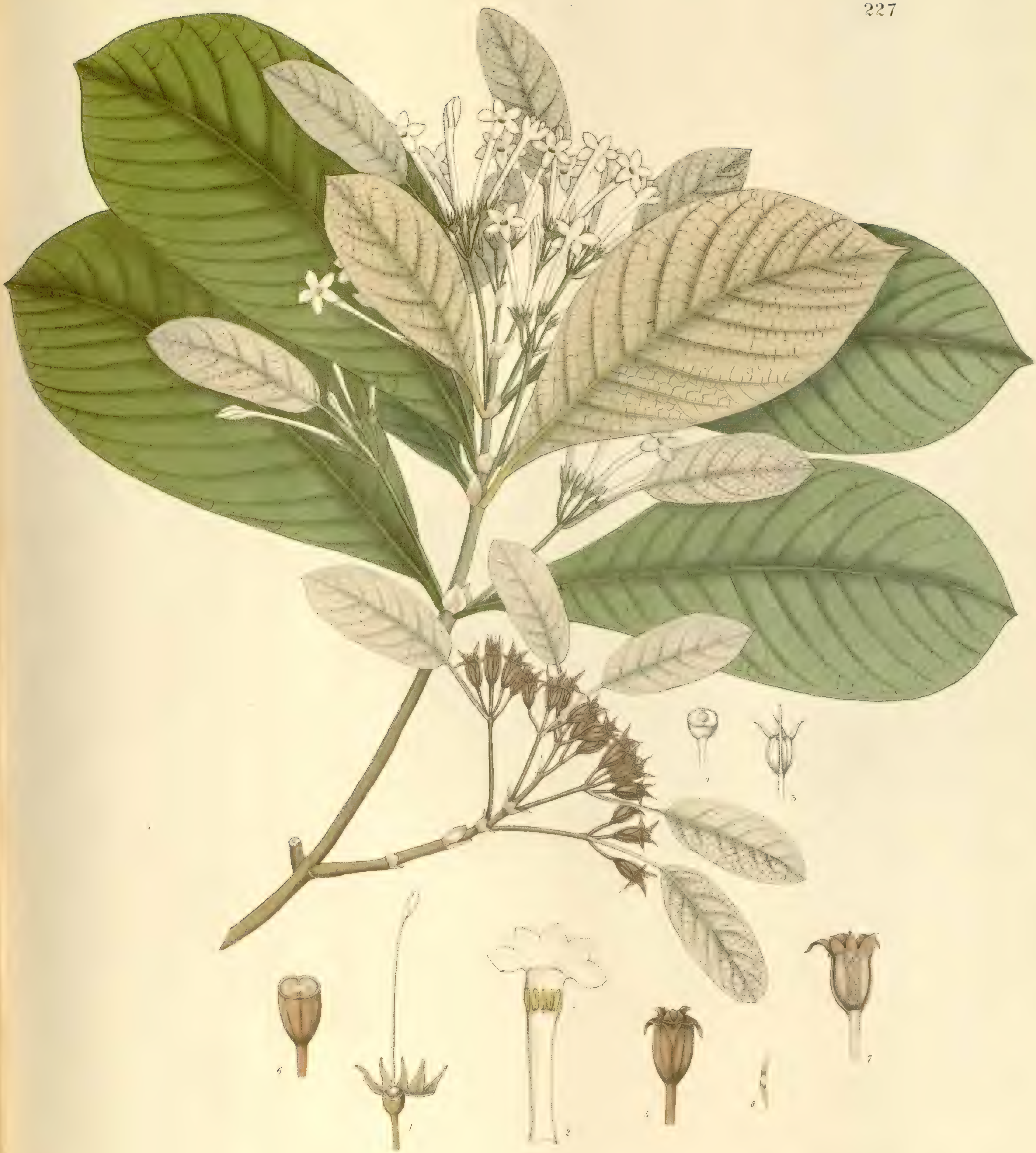

Hymenopogon parasiticus

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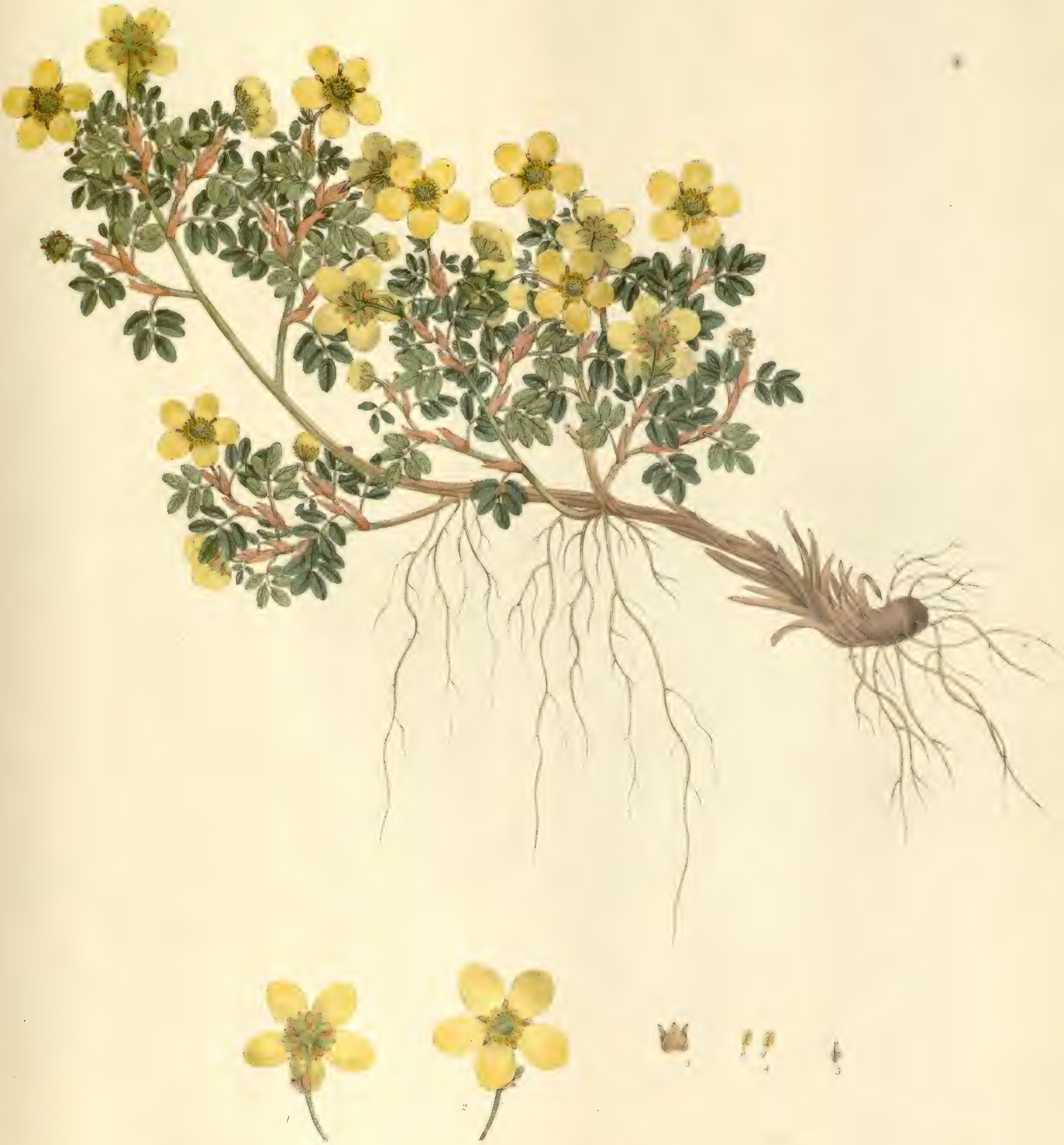

Potentilla arbuscula

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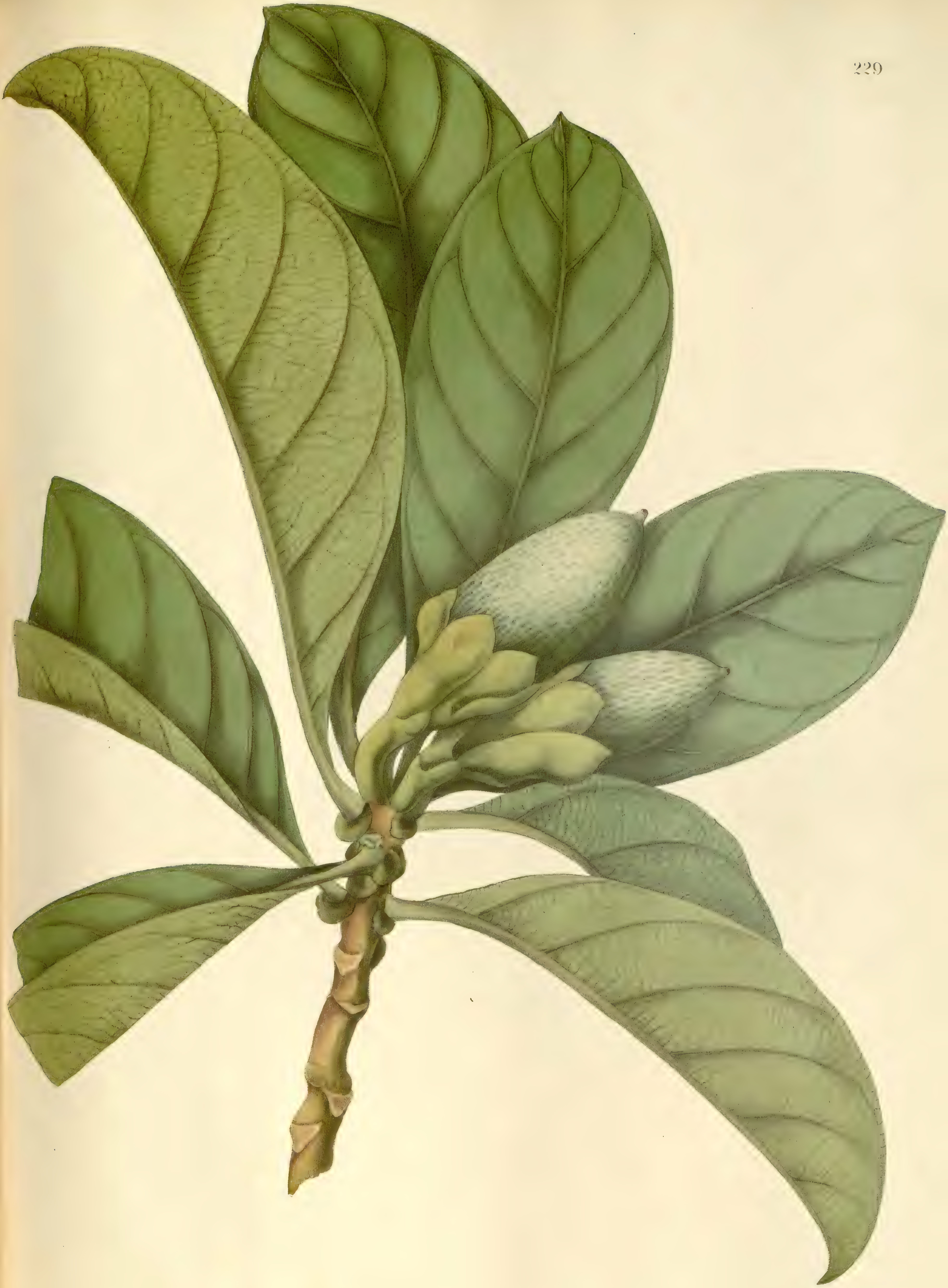

Fagraea auriculata

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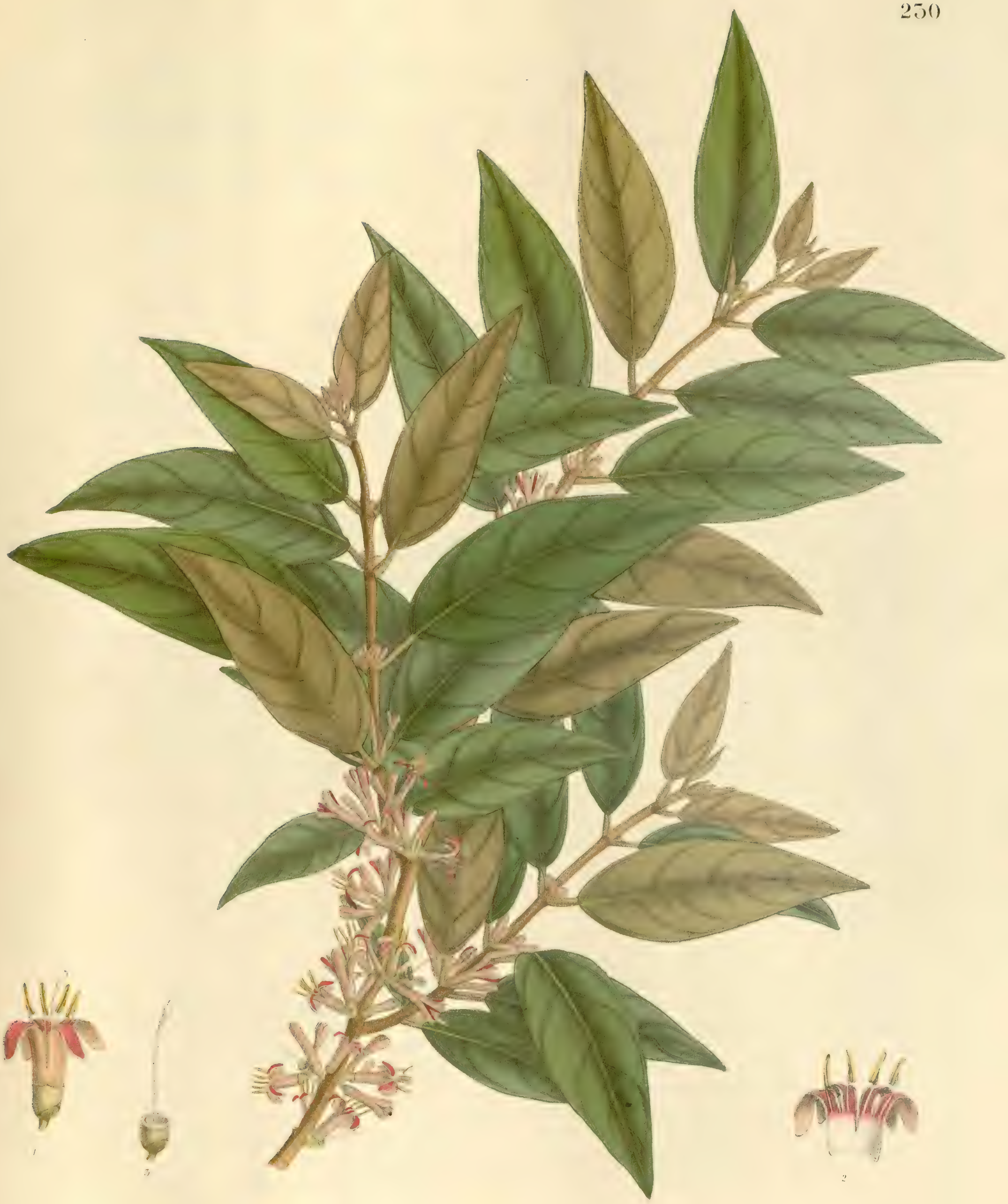


Loranthus vestitus.

Printed by Engelmann & C.

GARDNERA OVATA. Tab. 231.

Gardnera ovata Wall. in Roxb. Flor. Ind. vol. 1. p. 400. et vol. 2. p. 318.

Habitat in montibus prope Sillet. Floret mensibus Aprilis—Septembris; fructificat Januario.

Plate CCXXXI. Fig. 1. 2. Flower. 3. Tube of anthers, opened. 4. Berry. 5. The same, cut transversely. 6. Seed. 7. The same, divided vertically, showing the embryo. 8. The same, with part of the outer covering removed. 9. Embryo.

TODDALIA FLORIBUNDA. Tab. 232.

Caule densè tuberculato, ramis aculeatis; foliis petiolisque inermibus, foliolis acuminatis; floribus corymboso-racemosis, axillaribus terminalibusque.

Xanthoxylon floribundum Wall. Cat. Herb. Ampl. Procur. Brit. Ind. Orient.

Crescit in summis Napaliæ montibus; florens Januario, fructifera sub pluviis.

Frutex magnus, altè super arbores scandens. Caulis cylindricus, pollicem et ultrà crassus, plures orgyas sæpè longus, fuscescens, calloso-punctatus, obsitus tuberculis frequentibus, magnis, conicis, sparsis, approximatis, semipollicaribus, horizontalibus, griseis, annulatis, subtruncatis, basi ad insertionem obscurè compressis, suberoso-lignosis, nudis vel terminatis aculeo parvo, subulato, recurvato, acutissimo. Rami longi, teretes, fusci, calloso-punctati, pubescentes, densè armati aculeis brevibus, hamato-recurvis, compressis, puberulis; *juniores* ferrugineo-villosuli. Folia alterna, approximata, petiolata, ternata, inermia. Foliola sessilia, oblongo-lanceolata, obtusè acuminata, inæqualiter crenulata, basi attenuato-acutâ articulata, plana, coriacea, lævia, lucida, subtùs costâ elevatâ, gracili, albicante, nervis tenuissimis, parallelis, approximatis, subtransversalibus, intra marginem anastomosantibus, punctis conspersa copiosissimis, diaphanis, odore et sapore vix aromaticis; *intermedium* 3—4-pollicare, *lateralia* parùm breviora, basi minùs attenuata, hincque paullò angustiora. Petiolus *communis* inermis, gracilis, utrinque parùm incrassatus, levitèr curvus, suprà planus cum linea intermedia elevata, corpusculo brevissimo, conico, glandulæformi terminata. Flores parvi, inodori, e viridi flavicantes, pedicellati, subumbellatim fasciculati, dispositi in racemos admodùm numerosos, compositos, solitarios, pedunculatos, axillares, folio breviores, vel ad apicem rami nudum subpaniculatos. Pedunculi teretes, villosuli. Bracteolæ aliquot sparsæ, lanceolatæ infra pedicellos. Calyx minimus, urceolatus, villosulus, acutè quinquedentatus. Petala 5 lineari-lanceolata, acuta, carnosa, lineas 3 longa, calycem quadruplò superantia, cumque dentibus ejus staminibusque alternantia, extùs punctato-scabrida, intùs glabra, mediò lineolâ elevatâ notata, æstivatione valvata. Stamina 5, corolla longiora, patentia, lævia, distincta; *filamenta* filiformia, basi æquali circum discum hypogynum minimum et obsoletum inserta; *antheræ* majusculæ, ovatæ, erectæ. Pistillum staminibus brevius; *ovarium* oblongo-cylindricum, punctulatum; *stylus* carnosus, crassus, brevis; *stigma* convexum, obsoletè 5-angulare. Bacca subglobosa, carnosa, flava, glanduloso-punctata 5—7-locularis, magnitudine pisi.

Plate CCXXXII. Fig. 1. 2. Flower. 3. A fruit-bearing branch. 4. Berry. 5. 6. The same, opened in two ways. 7. Section of the base of the stem, showing the conical tubercules.

HUMBOLDTIA.

Calyx bibracteatus, tubo turbinato, limbo quadripartito, laciniâ posticâ (e duabus conflatâ) binervi. Petala 5 vel (suppressione inferiorum) 3. Stamina 5, omnia antherifera, distincta, fauci calycis inserta, ejusdemque laciniis opposita. Ovarium pluriovulatum, stipite tubo calycis hinc adnato. Stylus subulatus. Stigma capitatum. Legumen (oblongum, compressum, *Vahl.*).—*Brown MSS.*

Humboldtia Vahl. Symb. Bot. vol. 3. p. 39 et 106 (sub *Batschia*). Decand. Prodr. vol. 2. p. 488.

Frutices (vix arbores) inermes. Folia abruptè pinnata, subtùs glandulis nonnullis adpressis instructa. Stipulæ foliaceæ, persistentes, peltatim adnatæ, infra insertionem productæ in lobum transversim dilatatum, subtùs foliorum instar glandulosum, (in sicco saltem) sæpiùs reduplicatum stipulamque accessoriam exteriorem æmulantem. Racemi axillares, pedicellis bracteâ, præter duos calycinos, unicâ, caducâ subtensis. Calycis limbus, æstivatione imbricatâ, deciduus, tubum persistentem superans. Filamenta æstivatione induplicata. Antheræ versatiles.—*Brown.*

HUMBOLDTIA BRUNONIS. Tab. 233.

Tripetala, *foliis bijugis, stipularum lobo postico* subæquilatere, utrinque rotundato, ramis farctis, æqualibus.

Humboldtia Herb. Heynean. in Museo Ampl. Procur. Brit. Ind. Orient.

Patria vix non montes Malabariæ peninsulæ Indiæ Orientalis.

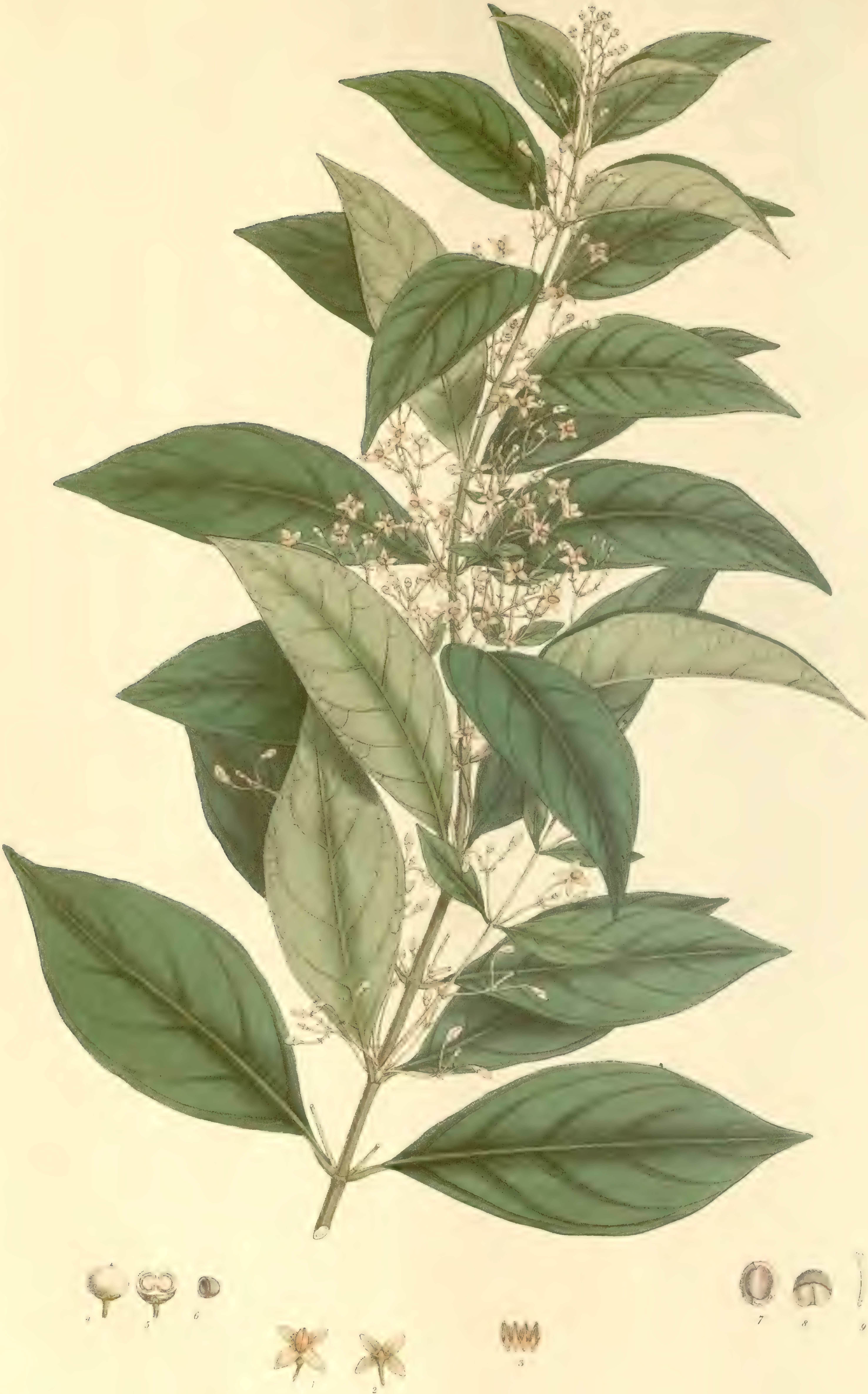
Frutex ramosus, inermis, verisimiliter decumbens, fors subscandens. **Rami** patentissimi, fusci, læves, farcti, æquales, exteriores graciles, pubescentes, hinc sulculo exsculpti, indè vix angulati, internodiis subdivaricato-arcuatis. **Folia** alterna, patentissima, subsessilia, interstitiis majora, abruptè pinnata, bijuga. **Foliola** exactè opposita, cuneato-oblonga, acumine brevi, obtuso terminata, integerrima, deorsùm attenuata, latere interiore ut in Mimoseis angustiore, basi inæquali obtusiuscula, texturæ inter chartaceam et choriaceam mediæ, plana, lævia, suprà nitida, dum sicca minutìm reticulata, subtùs eleganter nervoso-venosa, glandulis nonnullis parvis, depresso-excavatis, vagis instructa, costâ gracili, basi intumescente, rugosulâ et puberulâ, nervis frequentibus, filiformibus, parallelis, subtransversalibus, intra marginem arcuato-anastomosantibus, venis prominulis reticulatis; jugum exteriorum foliolorum deorsùm magìs attenuatorum, 6—8-pollicarium, omninò sessile; interiorum isto tertiâ vel quartâ parte minus, costâque paullò ultrà productâ brevissimè petiolatum. **Petiolus** communis brevissimus, lineas duas tresve emetiens, cylindricus, crassiusculus, transversè rugosulus, pubescens; continuatio ejus inter paria pinnarum gracilis, pennam columbinam crassa, uncialis vel sesquiuncialis, pubescens, suprà plano-sulcata, terminata setâ gracili, lineari, ciliatâ, unguiculari. **Stipulæ** laterales, oppositæ, persistentes, foliaceæ, peltatìm adnatæ, obliquè lanceolatæ, erectæ, parallelæ, cuspidato-acutæ, nervoso-lineatæ, unguiculares ad pollicares, rarissimè coalitæ in unicam intra-axillarem, concavam et navicularem, dum juniores subtùs margineque integerrimo puberulæ, nunc glandulâ unâ alterâve minutâ impressæ, suprà (paginâ nempè oppositæ stipulæ obversâ) glabræ nudæque, basi parùm contractâ, utrinque villosulâ infra insertionem horizontalem productæ in lobulum magnum, transversè dilatatum, reniformem, semiunciam latum, retusum, subæquilateralem, plurinervium, venoso-reticulatum, (in viva patentem et horizontalem?) in sicco sæpiùs sursùm reduplicatum paginisque quasi reversis stipulam accessoriam simulantem, subtùs puberulum glandulisque duabus tribusve parvis, depressis notatum. **Flores** magnitudine circitèr illorum Tamarindi, coloris forsan lætè aurantiaci Jonesiæ (quo gaudet Humboldtia laurifolia), pedicellati, æstivatione imbricati, dispositi in *racemos* axillares, solitarios, simplices, brevè pedunculatos, erectos vel adscendentes, oblongo-attenuatos, 5-pollicares, ferrugineo-villosos, foliolorum par infimum longitudine subæquantes. **Pedunculus** *communis* pollicaris vel semipollicaris, rachisque recta villosi, subangulosi; *pedicelli* filiformes, approximati, sparsi, nunc geminati, unguem longi, uniflori, suffulti *bracteâ* brevi, lanceolatâ, acutâ, deciduâ, dorso uniglandulosâ, villosâ. **Calyx** ovatus, monophyllus, suffultus *bracteis floralibus* duabus ovalibus, concaviusculis, utrinque obtusis, extùs villosis, versusque medium uniglandulosis, *tubo* turbinato paullò longioribus; *limbi* quadripartiti *laciniæ* ovatæ, obtusiusculæ, patenti-recurvatæ, lineas tres emetientes, extùs villosæ, intùs petaloideæ et venosæ, supremæ duæ in unam binervem, reliquis æqualibus latiorem connatæ. **Petala** tria, erecta, conniventia, subunguiculata, lanceolata, obtusa, obsoletè repando-crenulata, laciniis calycis ferè duplò longiora, glabra, venosa; posticum impar (*vexillo* analogum) paullò majus, subovatum, evidentiùs unguiculatum, axi laciniæ calycinæ supradictæ binervi oppositum. **Stamina** 5 fauci calycis inserta, distincta, rectiuscula, subparallela, laciniis calycinis, et quidem postica duo nervis laciniæ respondentis, opposita, petalis longiora; *filamenta* glabra, filiformia, omnia antherifera, æstivatione conduplicata, duo reliquis breviora; *antheræ* majusculæ, ovatæ, versatiles, biloculares, citiùs dilabescentes; *pollen* globulare. **Ovarium** obliquè oblongum, compressiusculum, densè cano-villosum, oligo-(3- vel 4-)sporum, ovulis appensis, apice hinc acutiusculum, indè gibbosum, suffultum stipite brevi, calycis tubo hinc adnato; *stylus* subulatus, glaber, ante anthesin circinatus; *stigma* parvum, glabrum, capitatum. **Fructus** ignotus.

This elegant, diffuse or rambling shrub is a native of the peninsula of India, probably of the mountains on the Malabar coast, where it was discovered by the late Dr. Benjamin Heyne. Independent of the curious structure of its stipules, and, in some degree, of its flowers, there is another consideration which claims for it a very high degree of interest, the genus to which it belongs being called after Baron Alexander de Humboldt, to whom it was dedicated nearly forty years ago by my revered preceptor Professor Martin Vahl of Copenhagen, one of the very first botanists of his time. Anxious for an opportunity of testifying my profound respect for the illustrious name which the plant commemorates, I have associated with it, as a specific appellation, a name not less immortal,—that of Mr. Robert Brown; and I have therefore ventured to cancel the specific name, though perfectly unobjectionable, which was given to the plant by Dr. Heyne. In speaking of *Amherstia* in the first volume of this work, I alluded to a certain group of leguminous plants having a tubular calyx; to it *Humboldtia* belongs, besides several others. In the Linnean method the genus stands in *Pentandria Monogynia*, in the section with polypetalous corolla and superior fruit, where it may be completely characterized by one single word: *Legumen*. In the natural system a greater detail is required; and I am indebted to Mr. Brown for the generic character, and for the general remarks which are placed at the head of this article, as well as for the subjoined amended character of Vahl's *H. laurifolia*, of which I have seen most beautiful specimens in the collection of the Horticultural Society of London, gathered in Ceylon by the late Mr. M'Rae, with flowers resembling in general appearance and colour those of *Jonesia Asoca*. From the useful *Catalogue of Indigenous as well as Exotic Plants growing in Ceylon*, by the late Mr. Alexander Moon, we learn that this shrub is found at Caltura on hills, in the sort of mould called *Kabook* by the natives, and that the Singhalese name of it is *Gal-karanda*.

The beautiful drawing and dissections from which the accompanying Plate has been engraved were executed by Mr. Griffith, to whose extraordinary botanical talents and accomplishments I have already had occasion thankfully to advert in the observation annexed to *Phytocrene gigantea*.

H. laurifolia Vahl; pentapetala, foliis 3—5-jugis; stipularum lobo postico hinc productiore, acuto; ramulorum internodiis superioribus incrassato-fistulosis.—*Brown.*

Plate CCXXXIII. Fig. 1 and 3. Two branches, showing the stipules in their original position, the portion below the insertion being more or less in the same plane as that above. Fig. 2. A portion of the lower part of the stipule, with a gland:—this and all the following more or less magnified. 4. Flower-bud, with its bracteolæ. 5. Calyx just expanding, the bracteolæ removed. 6. Flower further advanced. 7. The same, the calycine segments removed. 8. Flower fully expanded, three of the stamens and two petals being removed, to show the opposition of the upper petal and two stamens to the corresponding two-veined calycine lobe. 9. Flower fully expanded, the anthers having fallen. 10. Front view of the anther. 11. Back view of the same. 12. Pollen-grains. 13. Young ovary, with its pedicel adhering to one side of the tube of the calyx, and circinate style. 14. The same opened, showing the insertion of the ovules.



Gardneria ovata!

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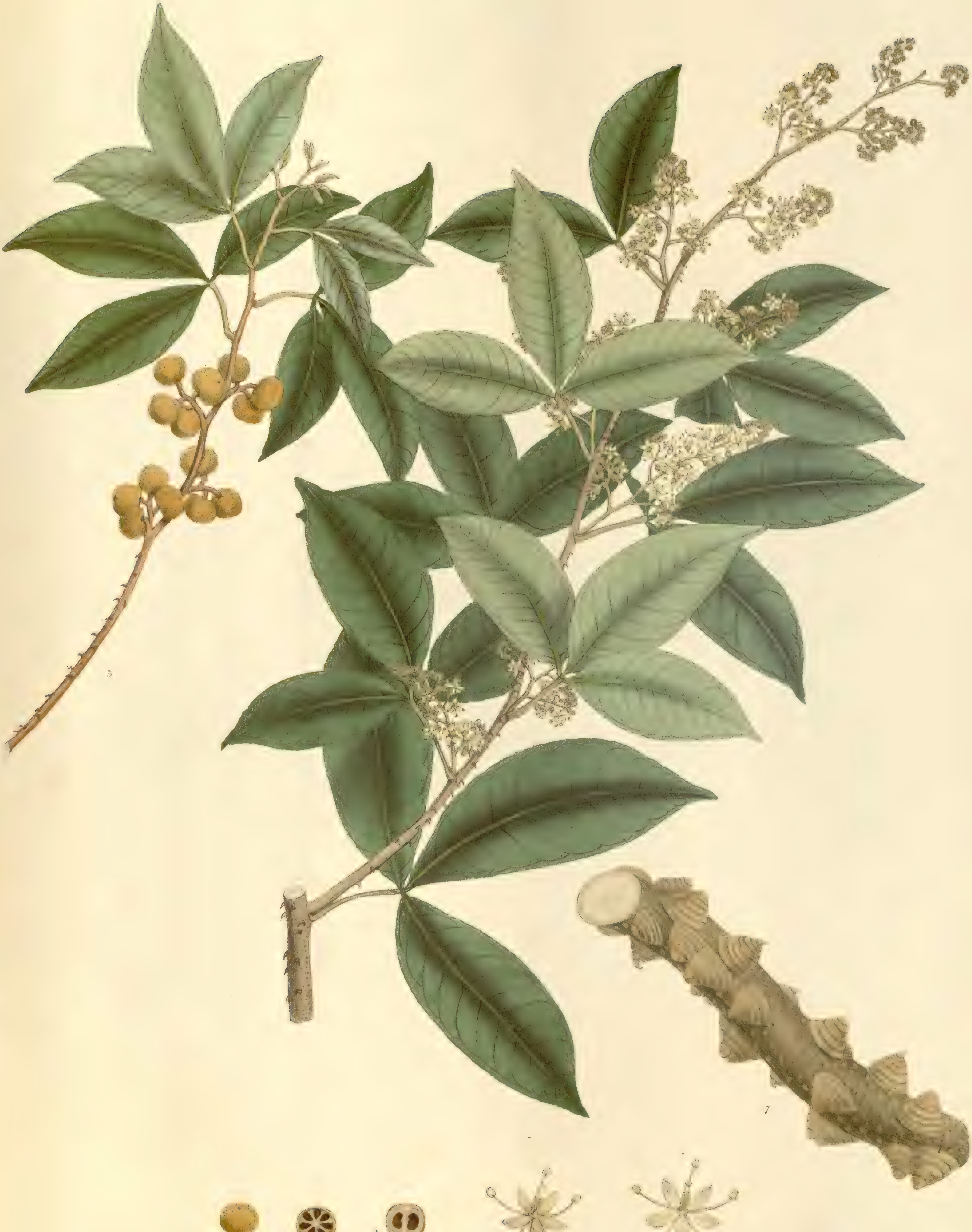

Xanthoxylon floribundum

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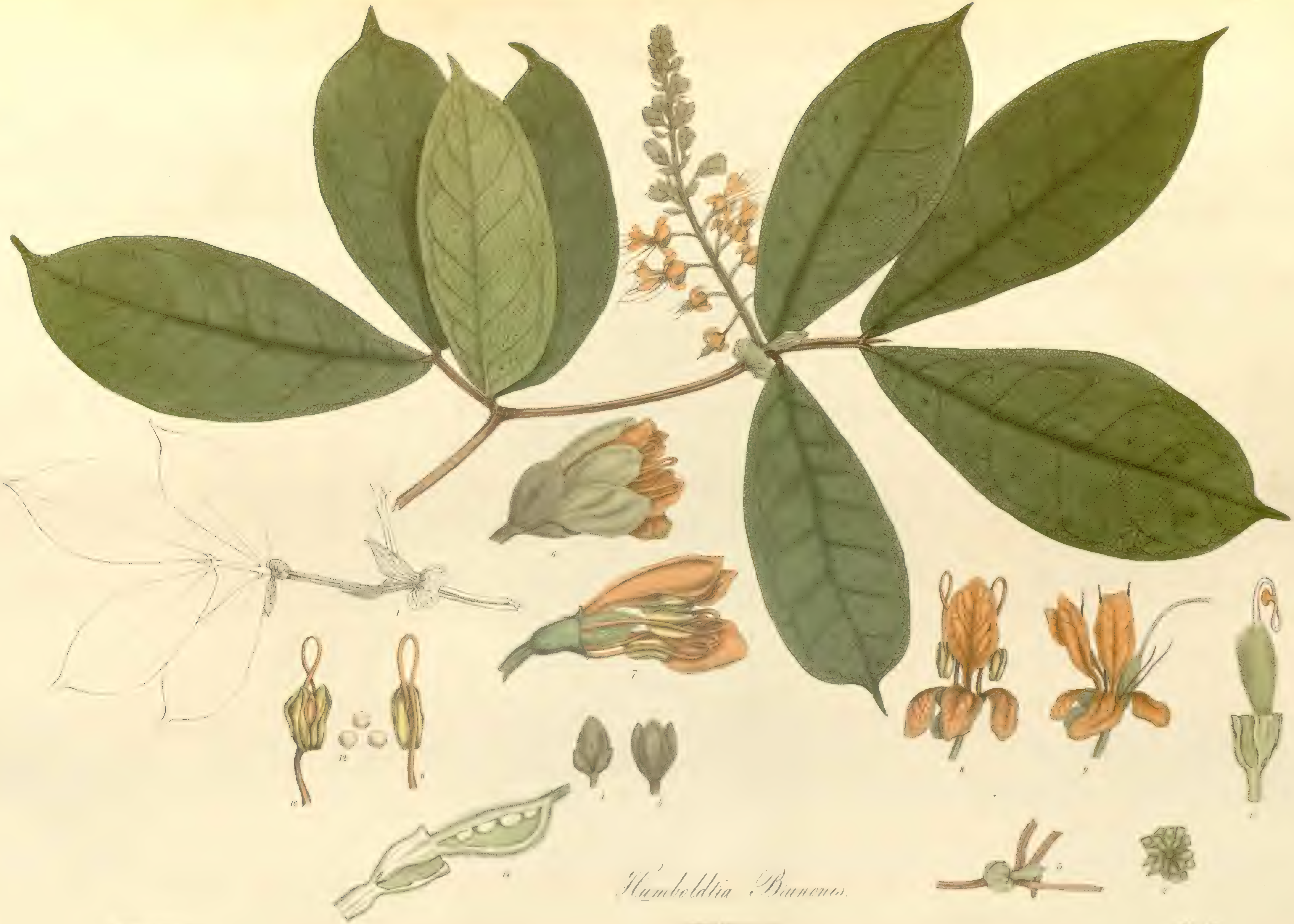
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Humboldtia Brunonis.

RUBUS RUGOSUS. Tab. 234.

Rubus rugosus Smith in Cyclop. Reesiana, vol. 30, in loco.
Rubus Hamiltonianus Sering. MSS. Decand. Prodr. Syst. Nat. vol. 2. p. 566.

Habitat in montibus Napaliæ, florens tempestate anni pluviosâ; indè in hortum botanicum Calcuttæ allatus. In montibus Sillet vicinis legerunt De Silva et Gomez. In jugo Nilghiry dicto observaverunt dom. E. Noton et Leschenault.

This fine and large species has been excellently described by the late Sir J. E. Smith in Rees's Cyclopædia, under the article *Rubus*. The fruit is red, and has a pleasantly acidulous taste.

Plate CCXXXIV. Fig. 1. Ripe berry.

DOMBEYA PALMATA. Tab. 235.

Dombeya palmata Cavan. Diss. 3. p. 122. tab. 38. fig. 1.
Dombeya angulata Roxb. Hort. Calc. p. 50 (haud Cavan.).

Habitat in insula Borboniæ. In horto calcuttensi floret versus finem anni.

Frutex, vel potiùs arbuscula, ramosa, patens. Rami cylindrici, cinerascentes, tuberculato-cicatricati, supernè villosuli. Folia sparsa, patentissima, longè petiolata, ad apicem rami valdè approximata, circumscriptione rotundato-cordata, diametro 5-pollicari, adulta palmaria, 5—7- quin 9-loba vel palmato-partita, lobis nunc latis brevibusque, acutis vel acuminatis, imò longè acuminatis, tunc (in foliis nempè profundiùs palmatis) ovatis vel oblongo-lanceolatis, longissimè subcaudato-acuminatis, basi valdè contractis, marginibusque subimbricantibus; omnibus acutè serratis; sinu basis acuto, integerrimo; subcoriacea, suprà saturatè viridia, lævia, subtùs pallida, nervis tot quot lobi gracilibus, elevatis, puberulis, lateralitèr ramosis, venis capillaceis, reticulatis; *tenella* ferruginea nervis viridibus. Petiolus teres, gracilis, puberulus, longitudine circiter folii. Stipulæ oppositæ, lanceolatæ, acutæ, extùs pilosulæ, emarcescentes. Panicula amplissima, terminalis, valdè lata, depresso-subfastigiata, constans corymbis axillaribus, longè pedunculatis, erectiusculis, simplicitèr bifidis. Pedunculi teretes, pilosuli. Flores magni, albi, inodori, diametrum pollicarem emetientes, subracemosi, solitarii vel 2, 3 pluresve fasciculati, inserti pedicellis teretibus, pollicaribus, uti calyx involucellumque valdè pilosi; flos solitarius in bifurcatione corymbi. Calyx 5-partitus; *laciniæ* reflexæ, lanceolatæ, acutæ, ferè unguiculares, intùs læves. *Involucrum* dimidiatum, calycem unilateralitèr extùs suffultiens eodemque parùm brevius, constans foliolis tribus ovatis, acutis, hirtis, basi imbricantibus, mox deciduis. Petala 5 obovata, obtusa, leviter retusa, semipollicaria, calyce ferè duplò longiora, venulosa, emarcescentia, basi attenuata parumque obliqua. Filamenta 20 basi in tubum brevem concreta; *sterilia* 5 filiformia, reliquis duplò ferè longiora, nuda; *fertilia* subulata; *antheræ* erectæ, cuspidatæ. Ovarium globosum, hirsutum, 5-loculare, polysporum; *stylus* staminibus parùm longior; *stigma* 5-lobum, lobis brevibus cylindricis, recurvatis.

Plate CCXXXV. Fig. 1. The leaf of a luxuriant shoot. 2. Flower, opened. 3. The same, with the petals removed. 4. A division of the corymb, with the involucre of the flowers, the latter being removed. 5. Tube of stamens, opened. 6. Ovary, cut across. 7. Ovary, cut vertically.

MUCUNA ANGUINA. Tab. 236.

Floribus cymosis, densis; leguminibus subrotundis, transversè lamelloso-rugosis, hispidissimis, monospermis; foliolis suprà glabris.

Habitat in Chittagong, ubi detexit J. Roxburgh, et anno 1811 in hortum botanicum Calcuttæ introduxit. Floret Novembre et fructificat Aprili.

Frutex amplus, latè volubilis. Caulis crassus, cortice cinerascente, cylindrico-compressus, utrinquè profundè sulcatus, duos truncos connatos sæpè referens. Rami juniores cylindrici, uti omnes superiores et recentes partes horridi setis longis, fulvis, rigidis, solubilibus, cutem facilè penetrantibus, ardorem et pruritum excitantibus. Folia alterna, patentia, ternata, petiolata; *foliola* integerrima, obtusè acuminata, suprà glabra, subtùs pilosa, novella utrinquè pilosa; 3—5-pollicaria; terminale ovatum, lateralia dimidiato-cordata. Petiolus cylindricus, 3-pollicaris, articulatus. *Stipulæ* laterales, falcatæ; *stipellæ* subulatæ, parvæ. Cymæ axillares lateralesve (ex axillis nempè foliorum delapsorum), solitariæ, geminatæ vel ternatæ, globulares, laxè pendulæ. Flores magni et speciosi, atropurpurei, fœtidi, fasciculato-ternati, pedunculati. **Pedunculus** brevis, subflexuosus; *pedicelli* cylindrici, unguiculares, hirti. **Bractea** floribus tribus communis magna, ovata, concava; prætereà interiores tres calyci adpressæ, lanceolatæ; omnes caducæ, rufo-hirsutæ. **Calyx** campanulatus, utrinquè, præcipuè paginâ exteriore hirto-setosus; *faux* irregularitèr 5-dentata, dentibus brevibus, acutis, inferiore elongato. **Vexillum** alis carinâque dimidiò brevius. **Antheræ** barbatæ, staminum breviorum oblongæ erectæ; longiorum ovatæ, incumbentes. **Legumen** orbiculatum, monospermum, tripollicare, utrinquè profundè lamelloso-sulcatum, armatum setis rufo-barbatis, copiosissimis. **Semen** magnum, solitarium, reniforme, e spadiceo-nigricans, sustentum funiculo longo.—*Colebr. MSS.*

I am indebted to Mr. H. Colebrooke for the drawing and description of this truly superb but most fiercely stinging plant. All the green and tender parts, and particularly the pod, are furnished with loosely adhering long and stiff rufous or fulvous bristles, which easily penetrate the skin and create an intolerable itching and irritation.

Plate CCXXXVI. Fig. 1. Calyx, opened. 2. Stamens. 3. Keel of the flower. 4. One of its wings. 5. Legumen.

PONGAMIA ELLIPTICA. Tab. 237.

Foliolis 3—5-jugis cum impari, subcuneato-oblongis, pubescentibus, ramulis, pedunculis calycibusque ferrugineo-villosis; racemis fasciculatis; legumine elliptico-lanceolato.

Galedupa elliptica Roxb. Hort. Beng. p. 53.

Ex Amboina in hortum botanicum Calcuttæ allata, ubi floret Martio, fructificatque Augusto. Etiam crescit secus ripam fluminis Attran in Martabania, florens Martio.

Frutex magnus, pulcherrimus, volubilis, cortice brunneo. **Rami** prælongi, cylindrici, fusci, glabri; *ramuli* densè obtecti tomento ferrugineo, mollissimo. **Folia** alterna, petiolata, patentia, in ramulis approximata, pedalia et longiora, impari-pinnata, 3—5-juga. **Foliola** exactè opposita, oblonga, acuta, membranacea, integerrima, deorsùm paullò angustiora, basi rotundata vel acutiuscula, brevè petiolulata, pubescentia, glaucescentia, recentia utrinquè ferrugineo-villosula, suprà nitidula, subtùs costâ nervisque suboppositis pubescenti-ferrugineis; terminale a digito ad spithamam longum, cætera deorsùm sensìm decrescentia, infima 2—3-pollicaria. **Petiolus** teres, crassus, basi valdè intumescens, rachisque gracilis villosi, suprà sulcati; *partiales* crassi, cylindrici, tomentosi, lineas duas longi, basi *stipellâ* aucti minutâ, subulatâ. **Stipulæ** lato-ovatæ, subadnatæ, crassæ et carnosæ, ferrugineo-tomentosæ, emarcidæ. **Racemi** axillares lateralesque, solitarii vel fasciculati, villosi, foliis dimidiò vel tertiò breviores, nunc eadem ferè æquantes, oblongi, pedunculati, multiflori, adscendentes, interdùm compositi. **Flores** pollicares, ex luteo rosei, inodori, ternati vel fasciculati. **Pedunculi** omnes calycesque ferrugineo-villosi, cylindrici. **Calyx** amplus urceolatus, pedicello suffultus brevi; os subtruncatum, obliquum, 5-dentatum, dente supremo parùm longiore. **Bracteolæ** duæ, lanceolatæ, persistentes, parvæ, basi calycis utrinquè adpressæ. **Corolla** bilabiata; *vexillum* ovatum, obtusum, reflexum, unguem longum, brevè unguiculatum, basi callis duobus planis, majusculis; alæ longitudine carinæ eæque adpressæ, obtusæ; *carina* obtusa, apice biloba, utrinquè gibbosa. **Filamenta** connata in tubum subtùs vix fissum. **Antheræ** pilosulæ. **Ovarium** lineare, villosum, fuscescens; *stylus* brevis; *stigma* minutum, capitatum. **Legumen** læve, 2—3-pollicare, sessile, oblongo-lanceolatum, vel subellipticum, acutum, marginibus latiusculis, 1—2-spermum. **Semina** reniformia, nitida.

Plate CCXXXVII. Fig. 1. Calyx and stamens. 2. Banner. 3. Keel. 4. A wing. 5. Legume. 6. Seed.

SPATHODEA STIPULATA. Tab. 238.

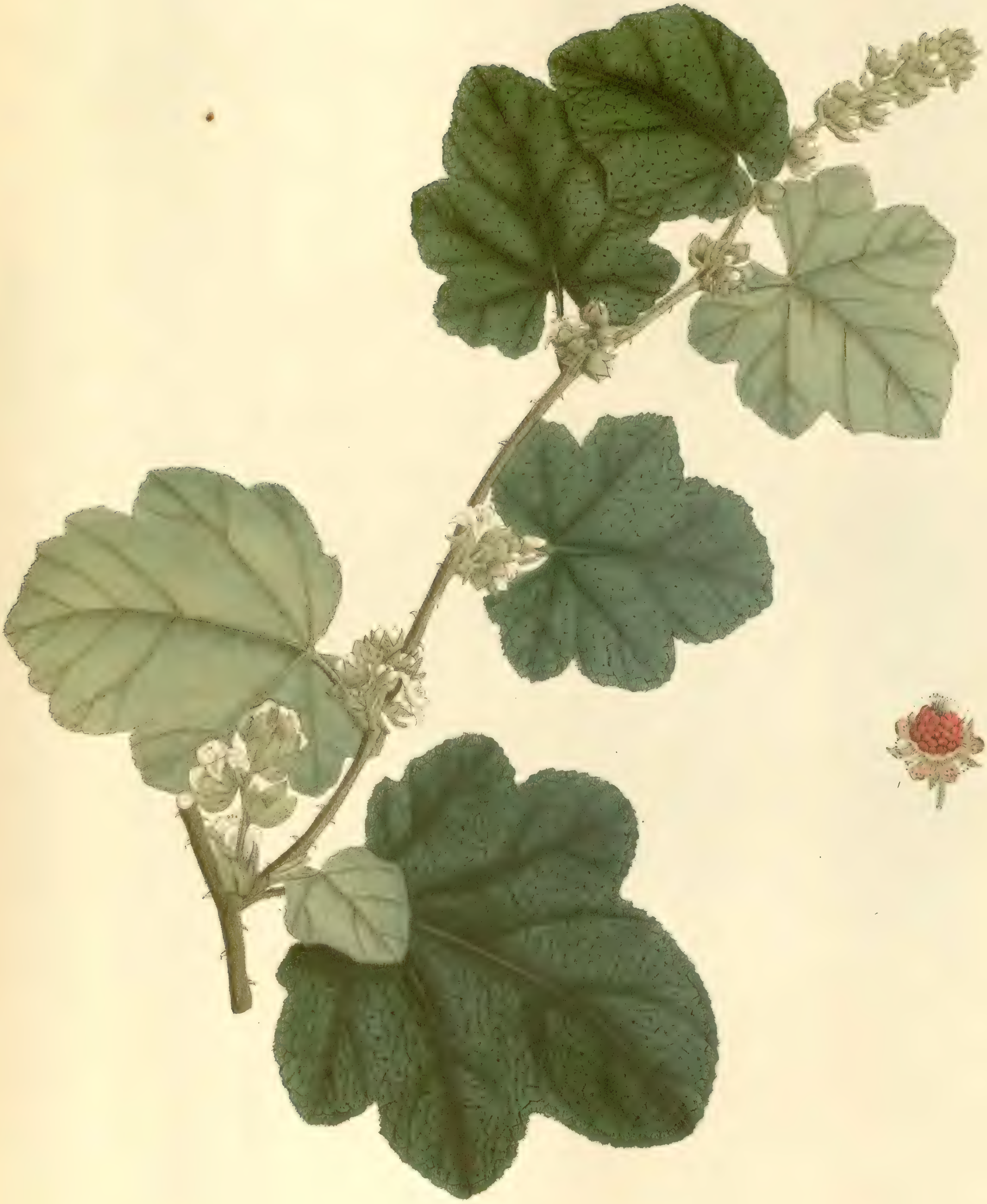
Arborea, erecta, foliis pinnatis 5-jugis, foliolis oblongo-ellipticis, acuminatis, integerrimis, subtùs pubescentibus; floribus maximis, terminalibus, racemosis, capsulâ ensiformi, longissimâ, calyceque densissimè tomentosis, corollâ campanulatâ extùs glandulosâ.

Bignonia stipulata Roxb. Hort. Beng. p. 47. Colebr. MSS. et icon. pict.

Spathodea? campanulata Hamilt. Herb.

Habitat in Pegu, indèque in hortum Calcuttæ introduxit Gulielmus Carey. Floret initio anni; fructificat Aprili. Ipse observavi aliquot arbores ad Segaen ripæ Irawaddi, oppidum Avæ contra, inter colles calcareos, floribus inapertis Novembre.

Arbor magna, ramosa. **Truncus** rectus, cortice cinereo, inæquali. **Rami** cylindrici, cinerei, supernè villosi. **Folia** decussatìm opposita, patentissima, pinnata, 5-juga cum impari, sesqui- ad bipedalia, petiolata. **Foliola** exactè opposita, brevissimè petiolulata, oblongo-elliptica, acuminata, integerrima, extrorsùm increscentia, basi rotundatâ hinc inæquilatera, terminale reliquis majus, usque ad pedem



Rubus Hamiltonianus.

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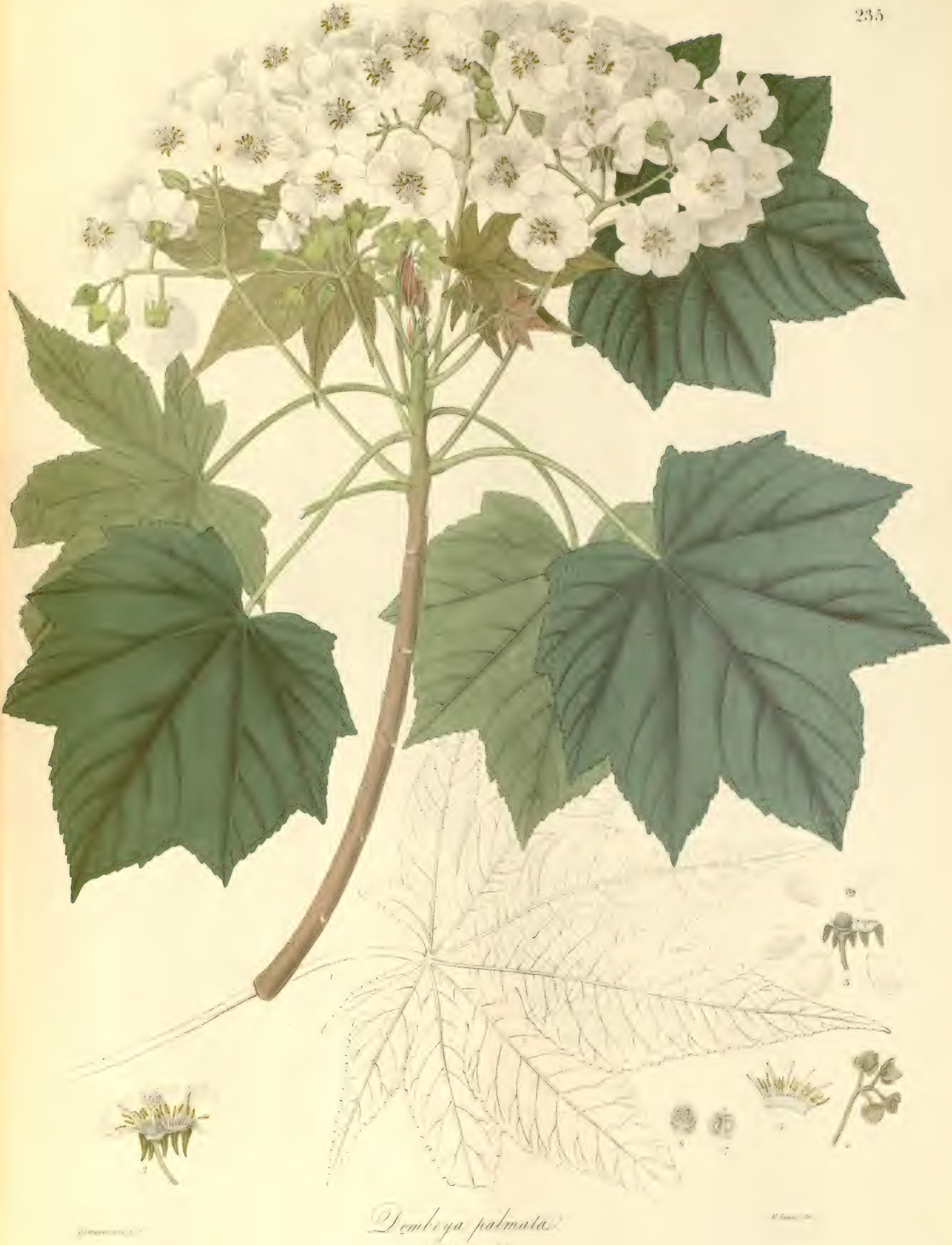

Dombeya palmata.

[illegible] N. Gauci

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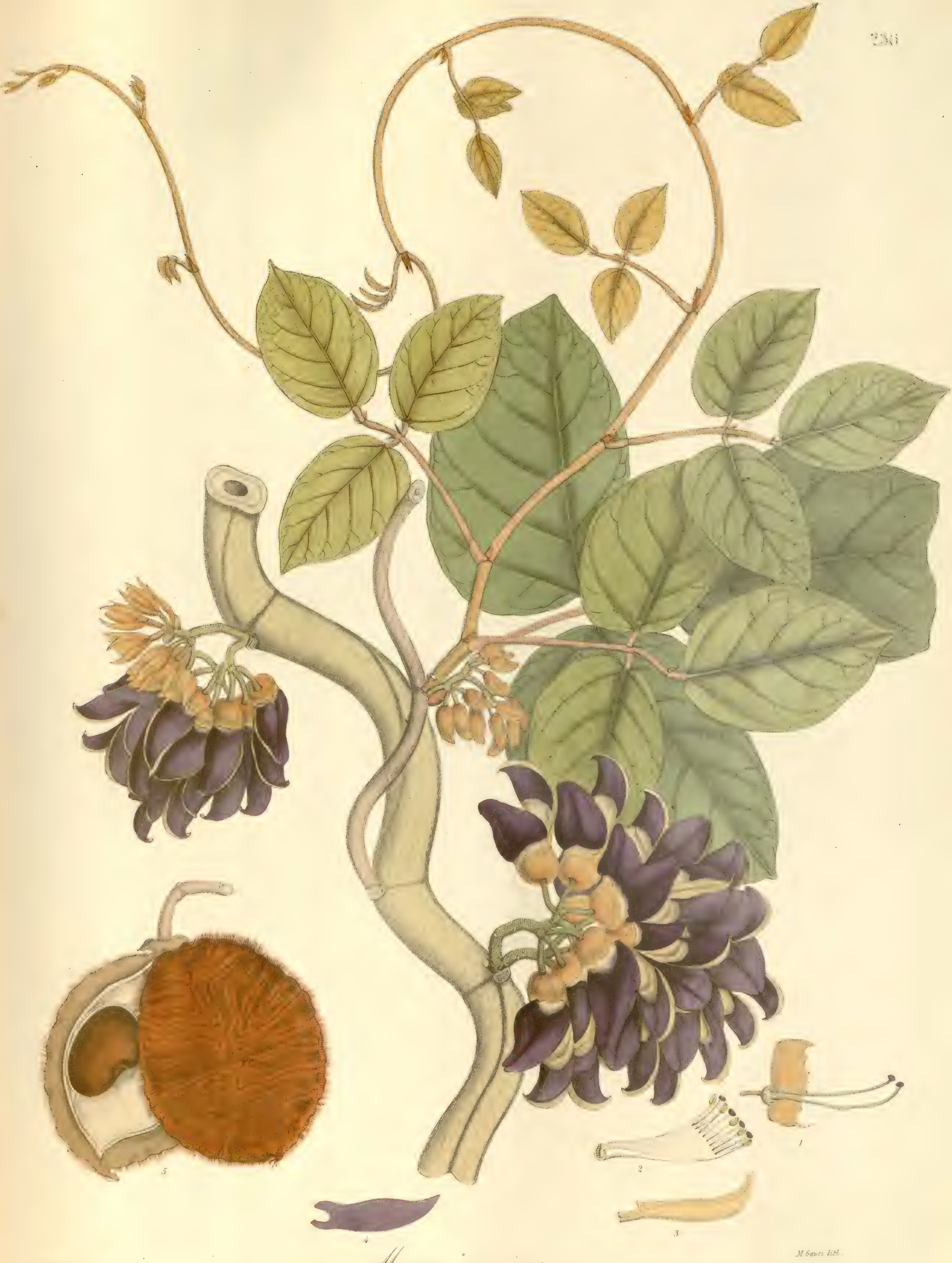

Gorachand del^{t}

Mucuna anguina

M. Gauci lith.

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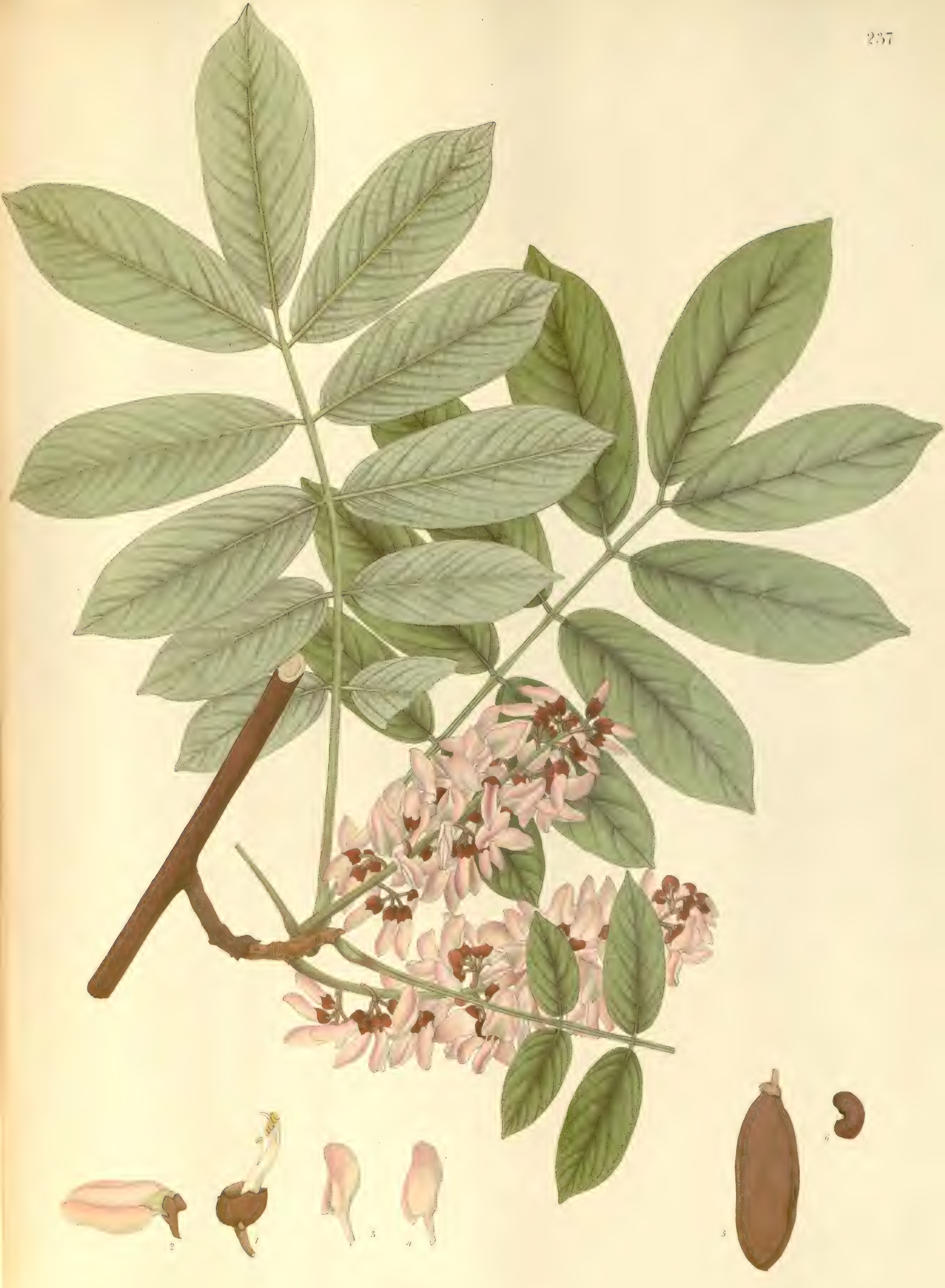

Pongamia elliptica

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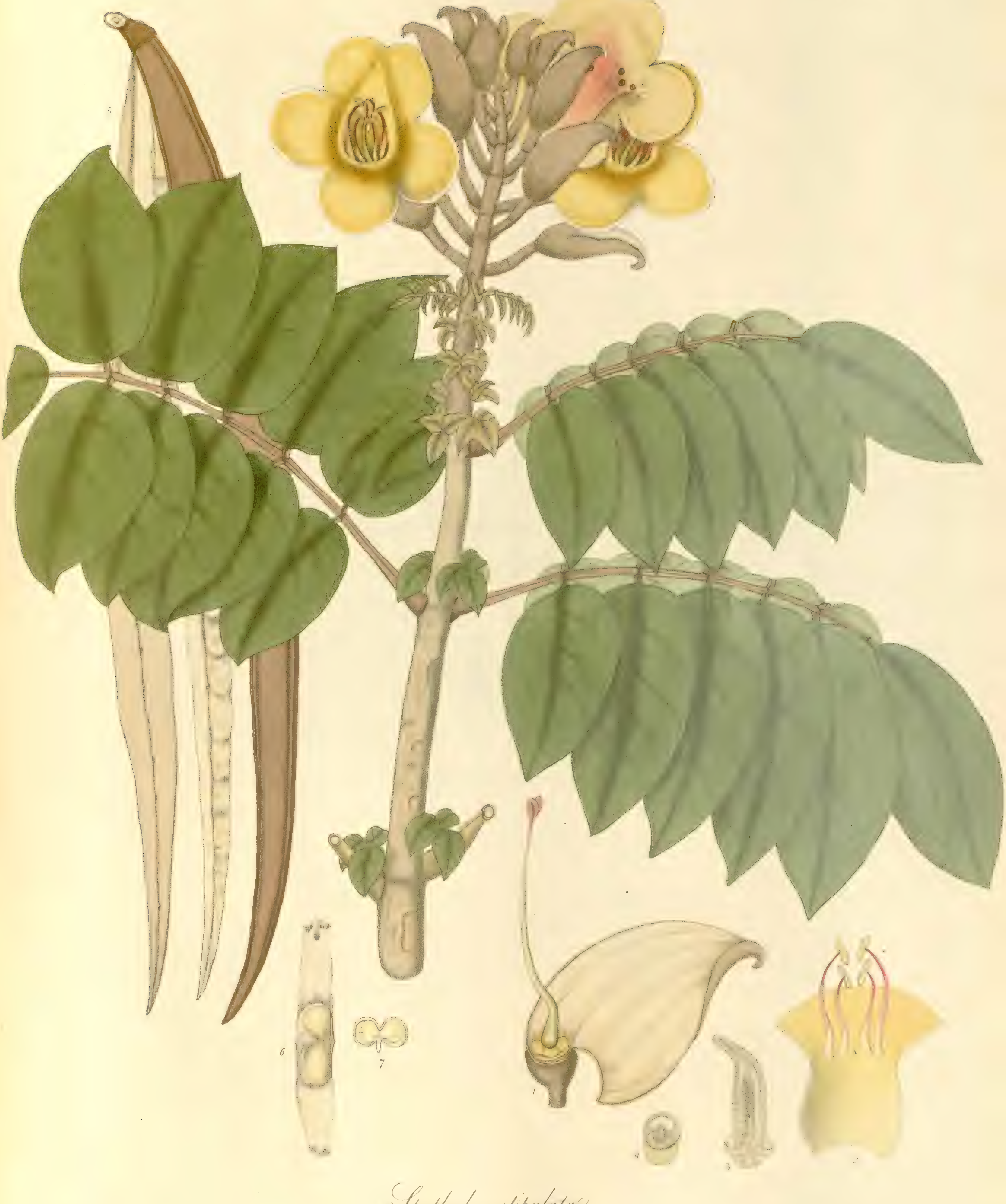


Spathodea stipulata

band del.

Printed by Engelmann & Co.

emetiens, infima subovata; chartacea, suprà lævia, subtùs reticulata, costâ nervisque pubescentibus, elevatis. Petioli villosuli; *communis* crassus, lignosus, cylindricus, basi valdè tumidus, extrorsùm levitèr compressus, ad insertionem pinnarum dilatatus; *partiales* brevissimi. Stipulæ nullæ; sed ramuli novelli axillares foliolosi stipularum ferè speciem induunt. Flores maximi, 4-pollicares, flavi, fœtentes, pedunculati, oppositi, subdecussantes, dispositi in racemum terminalem, erectum, sessilem, pyramidato-oblongum, 8-pollicarem. Pedunculi crassi, cylindrici, tomento denso ferrugineo vestiti; *partiales* pollicares, medio geniculati. Bractea ovata, parva infra basin pedicellorum, duæque minimæ ad eorum medium. Calyx spathaceus, oblongus, attenuato-acuminatus, recurvatus, coriaceus, bipollicaris, extùs densè ferrugineo-tomentosus, intùs albicans lævisque, ventre totâ longitudine fissus. Corolla calyce ferè duplò longior, extùs glandulis aliquot vagis, concavis, orbicularibus, purpureis, villisque paucis conspersa, crassa et coriacea; *tubus* ventricosus, supernè valdè dilatatus, purpurascens; *limbi* patentissimi, *laciniæ* ovato-rotundæ, obtusæ, crenulatæ, suprema bipollicaris, reliquis ferè duplò major, emarginata; *faux* ampla, $1\frac{1}{2}$-pollicaris. Stamina quatuor, didynama, cum rudimento quinti brevissimo subulato inter superiora; *filamenta* e medio tubi, crassa, purpurea, cylindrica, arcuata, lævia; *antheræ* conniventes, loculis divaricatis. Ovarium breve, oblongum, glabrum, circumdatum *disco* carnoso, tumido, flavo, undulato: *stylus* cylindricus, valdè crassus, adscendens; *stigma* ad antheras elevatum, divisum in lobos duos ovatos, contiguos et parallelos. Capsula ensiformis, marginibus parallelis, rotundatis et obtusis, utrinquè subcarinatis, lateribus planis; attenuato-acuminata, pendula, pedalis bipedalisvè, pollicem et parùm ultrà lata, densissimè vestita tomento copioso, mollissimo, ferrugineo, facilè separabili; 2-locularis, spuriè 4-valvis. Valvæ lineares planæ, coriaceæ. Dissepimentum subcrustaceum, lineare, lateribus capsulæ parallelum, valvis contrarium, harumque medio lineâ utrinquè elevatâ latiusculâ insertum. Semina numerosa, lineari-oblonga, plana, tertiam unciæ partem lata, alâ tenuissimâ, obtusâ, argenteo-albâ utrinquè terminata, bipollicaria. Cotyledones latissimè reniformes, bilobæ, obtusæ.

I have again to express my gratitude to Mr. Colebrooke for his drawing and manuscript relating to this fine tree, of both of which I have entirely availed myself.

Plate CCXXXVIII. Fig. 1. Calyx. 2. Corolla. 3. 4. Ovary, opened. 5. Capsule. 6. Seed. 7. Embryo.

PHOLIDOTA RUBRA. Tab. 239.

Pholidota rubra Lindl. Orchid. p. 37.

Crescit in Napalia, super arborum truncis; florens Majo.

Radix constans fibris longis teretibus. Pseudobulbi aliquot oblongi, rugoso-sulcati, bipollicares, diphylli, uti tota planta læves; recentes subcylindracei, involuti *squamis* lanceolatis, acutis, adpressis, alternantibus, quarum paucæ emarcidæ perdurant. Folia brevè petiolata, erecta, lanceolata, utrinquè acuta, coriacea, plano-plicata, suprà atroviridia lucida, subtùs parùm nervosa, 5—6-pollicaria. Racemus pseudobulbi recentis adhuc aphylli terminalis, solitarius, pedunculatus, gracilis, lineari-oblongus, 6-pollicaris; fructiferus pseudobulbi foliosi elongatus, laxè nutans, folia duplò superans. Flores parvi, sanguinei, bifarii, alternatim patentes, demùm decurvi, subapproximati, brevè pedicellati. Bractea infra singulum florem lanceolata, acuminata, fusca, membranacea, decidua, unguicularis, pedunculum cum ovario æquans; inferiores vacuæ. Perianthium campanulatum, vix bilabiatum; *foliola* ovata, acuta, concava; *exteriora* æqualia, *interiora* linearia. Labellum flavum, perianthio parùm brevius, trilobum; lobi acuti, intermedius ovatus, levitèr recurvatus. Columna flava, clavata, apice membranaceo-dilatata. Ovarium cuneatum, cum pedicello brevissimo unguem longum. Capsula obovata, 6-costata, pendula, semiuncialis.

Plate CCXXXIX. Fig. 1. Flower. Fig. 2—6. The same, dissected.

OSBECKIA TERNIFOLIA. Tab. 240.

Osbeckia ternifolia Herb. Hamilt. et ejusd. Catal. n. 915. Decand. Prodr. vol. 3. p. 142.

Habitat in omnibus Napaliæ partibus, in regione inferiore secus ripam fluminis Rapti tortuosam ad Hetounda alibique; in superiore adscendit ad cacumina montium altissimorum Sheopur et Chandaghiry. Floret fructificatque a mense Julii ad Decembrem. Etiam inveni in jugo Taong Dong dicto Avæ, florentem Novembre. In sylvis Kamrupæ legit b. Hamilton.

Frutex erectus, supernè ramosus, staturâ valdè variabilis, a pedibus duobus ad altitudinem humanam; quid? quod decempedales frutices in Napaliæ inferioris locis humidis uliginosis observavimus. Caulis obsoletè quadrangularis, digitum minimum circitèr crassus, epidermide griseâ, separabili. Rami stricti, octangulares, uti folia obsiti setis brevibus, sparsis, subadpressis; vetusti glabriores. Folia ternata, vel opposita, patentissima, brevè petiolata, lanceolata, attenuato-acuminata, basi subrotundata, sub lente minutìm crenulata, 5-pollicaria, 7-nervia, secus nervos marginesque adpressè setosa. **Panicula** terminalis, ovata, ampla, ramosa, furcata, constans floribus magnis, atropurpureis, racemosis, secundis, brevissimè pedicellatis; in bifurcationibus solitarii, sessiles. **Pedunculi** omnes rachesque quadrangulares, rufi, setosi, oppositi, sulcati. **Bracteæ** parvæ, lanceolatæ, oppositæ infra divisuras inflorescentiæ, et solitaria infra pedicellos. **Calyx** cylindraceo-conicus, semipollicaris, basi parùm ventricosus, 8-lineatus, conspersus setis brevibus, patulis, subcapitatis, salvâ basi evanidis, cæterùm lævis; *laciniæ* 4, lineari-lanceolatæ, acutæ, erubescentes, lineas 3 longæ, patentissimæ, ciliatæ, erubescentes, deciduæ, faucem calycis truncatam linquentes. **Petala** patentissima, obovata, ciliata, cuspidulata. **Stamina** 8, descendentia cum stylo clavato. **Capsula** semipollicaris, ventricoso-oblonga, lineata, setoso-scabra vel tuberculata, collo subcylindrico, truncato; disposita in racemum elongatum, secundum.

Plate CCXL. Fig. 1. Corolla. 2. Stamen. 3. Calyx, opened. 4. 5. Ovary, divided in two ways.

GLYCINE INVOLUCRATA. Tab. 241.

Ramis filiformibus, longissimis, volubilibus, pilosis; foliolis ovalibus, ciliatis; racemis axillaribus, pedunculis verticillo bractearum 3 orbiculatarum, cordatarum, nunc duplici.

Crescit in montibus Napaliæ, florens fructificansque mensibus Februarii et Martii; etiam in Sirmore (J. Gerard) et Kamaon (R. Blinkworth). In horto botanico calcuttensi floruit primâ vice Majo 1822.

Frutex ramosus, laxus, volubilis, obsitus pilis patentissimis, mollissimis, canescentibus. **Rami** perquàm longi, gracillimi, teretes, dum juniores valdè pilosi. **Folia** alterna, remotiuscula, patentia, trifoliolata, petiolata; *foliola* ovalia, utrinquè obtusa, apice cuspidulata, nunc retusa, integerrima, deorsùm subangustata, pollicaria vel bipollicaria, membranacea, brevissimè petiolulata, pallida et glaucescentia, ciliata, suprà glabra, sæpèque nubeculâ albicante notata, subtùs juxta nervos costamque gracillimos pilosula; intermedium lateralibus parùm majus. **Petioli** filiformes, pilosi, longitudine foliolorum. **Stipulæ** lanceolatæ, acutæ, pilosulæ et ciliatæ, lineatæ; *stipellæ* lineari-setiformes, longiusculæ. **Racemi** axillares, solitarii, erecti, densiflori, oblongo-cylindrici, obtusi, pilosi, pedunculati, folio ferè duplò longiores. **Pedunculus** filiformis, teres, pilosus, subtripollicaris, verticillis duobus bractearum æquidistantibus, nunc modò unico munitus, aliquandò brevissimus et nudus. **Bracteæ** foliaceæ, patentissimæ, ternato-verticillatæ, suborbiculatæ, obtusæ, cuspidatæ, sessiles, ciliatæ, semipollicares, basi latiusculâ cordatâ subimbricantes, subtùs reticulato-nervosæ et venosæ. **Flores** densè approximati, dilutè rosei, pedicellis brevibus, pilosis, basi aridè bibracteolatis suffulti. **Calyx** pilosus, bilabiatus; labium superius vexillum suffultiens lato-ovatum, acutum. **Petala** unguiculata, conniventia, calyce triplò longiora; *vexillum* ovatum, plicatum; *alæ* oblongæ; *carina* basi bidenticulata. **Legumen** lineare, sesquipollicare, ferrugineum, pilosum, nutans, arcuatum, cuspidatum; immaturum sericeo-barbatum. **Semina** 6 reniformia, lucida, fusca.

Plate CCXLI. Fig. 1. Flower. 2. The same, dissected. 3. 4. Pod. 5. Seed.

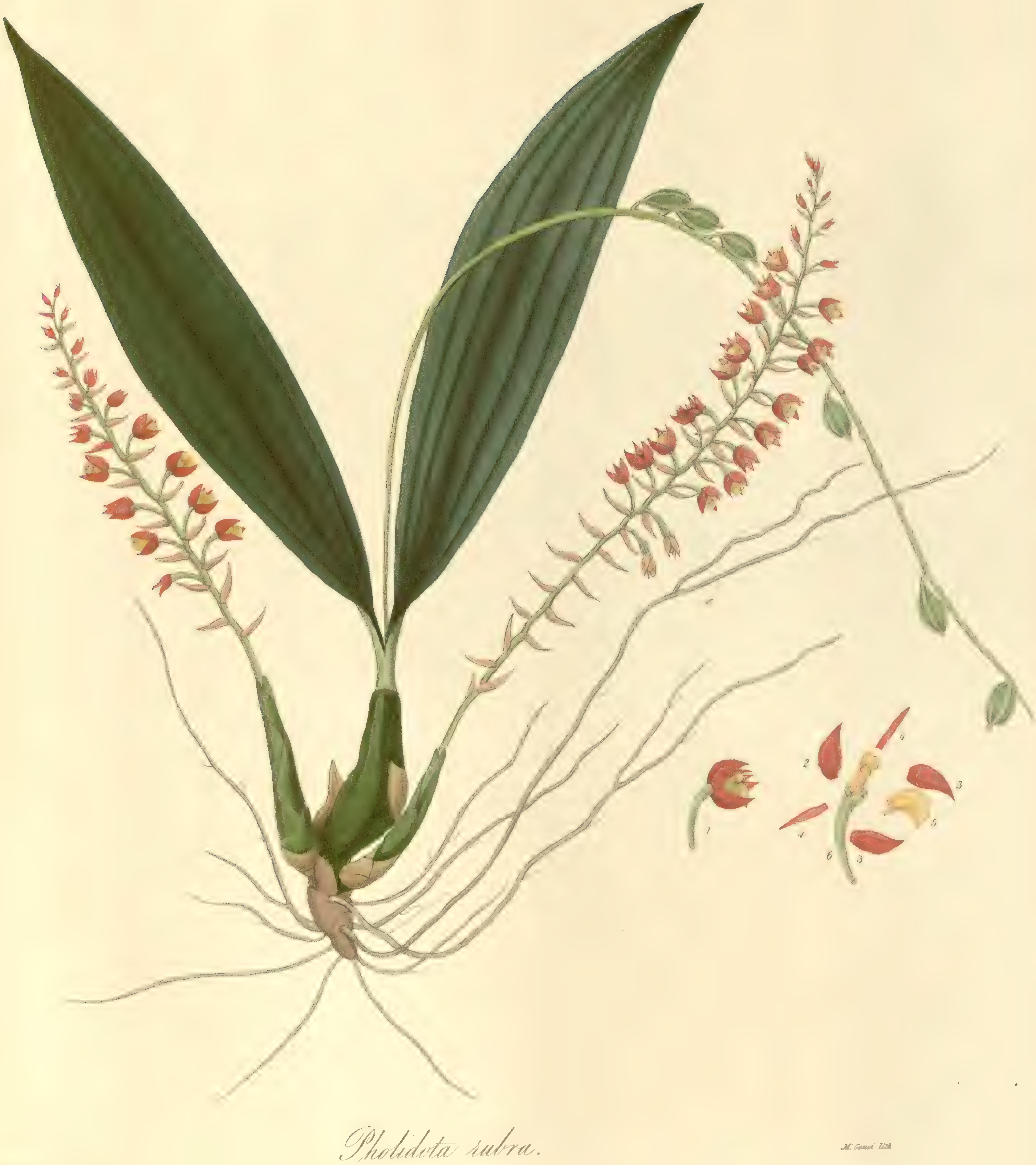
ROSCOEA PURPUREA, *gigantea*. Tab. 242.

Roscoea purpurea Smith Exot. Bot. vol. 2. p. 97. t. 108. Id. in Act. Soc. Linn. vol. 13. p. 460. Hook. Exot. Flor. vol. 2. fol. et tab. 144.

Incolit hæc varietas cacumen montis Sheopur Napaliæ, florens mense Julii.

I only found this stately plant on the very top of Sheopur, the highest mountain near the valley of Nipal. It measured from two to full three feet in height; and, unless my painters have mistaken the colour, its flowers were paler than those of the original species, which has been excellently described and figured by the founder of the genus, as well as by Dr. Hooker, and which is not uncommon in the mountain forests of that country. My principal motive for inserting the variety here, is to pay a grateful tribute of respect and admiration to the memory of my late illustrious friend William Roscoe, Esq., whose genius and labours will reflect lustre on his name and on his nation as long as literature and botany have any votary.

Plate CCXLII. Fig. 1. Detached flower. 2. The same, opened. 3. Style. 4. Inner laciniæ of the corolla and anthers. 5. Dorsal laciniæ. 6. One of the inner laciniæ, detached. 7. Ovary.



Pholidota rubra.

Gorachand del^t

M. Gauci lith

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Osbeckia ternifolia

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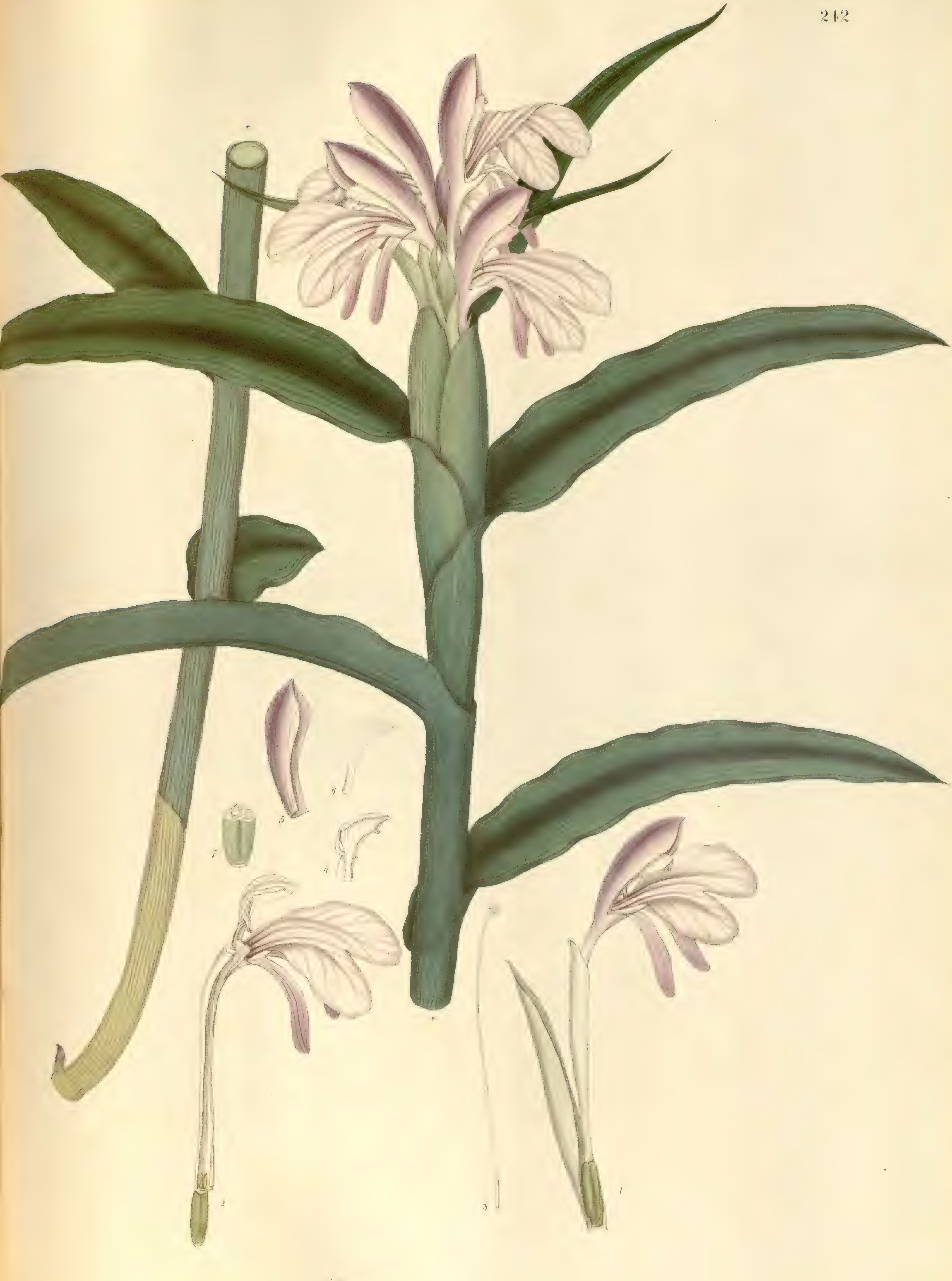

Roscoea procera

M Gauci lith

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BERBERIS WALLICHIANA. Tab. 243.

Berberis Wallichiana Decand. Prodr. vol. 1. p. 107.
Habitat versus apicem montis Sheopur Napaliæ, florens Aprili.

Frutex erectus, ramosus, rigidus, 6—8-pedalis, cortice sordidè griseo, epidermide laxâ, mox separabili. Rami longi, subbifariè patentes, uti omnes partes læves, levitèr flexuosi, flavicantes, nitidi, obtusè subangulati, ad insertionem spinarum utrinquè subcarinati. Folia brevè petiolata vel ferè sessilia, disposita in fasciculos alternos, interstitiis longiora inferiores eadem æquantia, oblongo-lanceolata, utrinquè acuta, deorsùm in petiolum attenuata, cuspide spinescente terminata, cuspidato- vel subspinescenti-serrata, coriacea, valdè rigida, 2—3-pollicaria vel ultrà, suprà atroviridia, lucida, parùm canaliculata, subtùs pallidiora, nitida, costâ gracili prominente, nervis tenerrimis, transversis, versùs marginem arcuato-anastomosantibus. Petioli unguiculares ad semipollicares, sæpè brevissimi, sulcati, basi articulatâ circumdati squamis gemmaceis fuscis, triangulari-lanceolatis, cuspidato-acutis, adpressis, imbricantibus, persistentibus. Spina infra singulum fasciculum foliorum divaricato-patentissima, ad basin usque tripartita, rigida, subulata, pollicaris, pallidè fusca, ad insertionem utrinquè margine elevato per ramum parùm decurrens. Flores flavi, densi, dispositi in fasciculum rotundatum centro fasciculi foliorum insertum, hisce triplò vel quadruplò breviorem. Pedunculi uniflori, filiformes, semipollicares, basi *bracteolâ* lanceolatâ suffulti, apice subclavati. Sepala 9 ad 15 oblonga, obtusa, inæqualia, exteriora breviora, ferè squamæformia. Petala 6, sepalis parùm longiora, hisce formâ convenientia, basi glandulis duabus adnatis, oblongis, mucosis. Stamina 6 erecta; *filamenta* subcarnosa, planiuscula, apice levitèr dilatata; *antherarum loculi* marginales, oblongi, introrsùm dehiscentes, valvulis lanceolatis. Ovarium oblongum, *ovulo* erecto, funiculo crassiusculo sustento; *stylus* columnaris brevissimus; *stigma* concavum.

Plate CCXLIII. Fig. 1. 2. Flower. 3. The same, dissected. 4. Detached stamen, after dehiscence. 5. The same, before dehiscence. 6. Pistil. 7. The same, the ovary being opened.

HYPERICUM OBLONGIFOLIUM. Tab. 244.

Hypericum oblongifolium Chois. Prodr. Monogr. Hypericin. p. 42. t. 4. Decand. Prodr. vol. 1. p. 545.
Crescit in monte Sheopur Napaliæ, ejusdem cacumen versus, florens Julio.

Frutex erectus, lævis, 6—8-pedalis, ramosus. Rami graciles, cylindrici, fusci. Folia opposita, subdecussatìm patentia, subsessilia, lanceolata vel oblongo-lanceolata, attenuato-acuta, integerrima, basi acuta, 2—3-pollicaria, minutìm pellucido-punctata et lineolata, suprà saturatè viridia, nitida, subtùs glaucescentia. Petioli perquàm breves, lato-sulcati. Fasciculus florum terminalis sessilis, rotundatus, irregularitèr bifidus, cum flore solitario in bifurcatione; divisiones tri-quadrifloræ. Flores magni, flavi, subglobosi, pedicellati, demùm nutantes. Pedunculi subquadrangulares, oppositè bisulcati, rufescentes; *pedicelli* unguiculares. Bracteæ foliaceæ, oppositæ, lanceolatæ, concaviusculæ, acutæ, unguiculares, demùm deciduæ. Sepala patentissima, ovata, obtusa, concava. Petala subrotundo-obovata, obtusa, concava, valdè inæquilatera, marginibus conniventi-imbricantia, ⅔-pollicaria. Stamina plurima, erecta, petalis breviora, filamentis in cohortes 5 basi connatis. Ovarium magnum, ovatum, 5-sulcatum, staminibus longius. Styli 5 subulati, superati stigmatibus clavatis.

Plate CCXLIV. Fig. 1. Flower. 2. The same, opened. 3. A fascicle of stamens. 4. A detached stamen. 5. Ovary, cut transversely. 6. The same, opened longitudinally.

LIMONIA LAUREOLA. Tab. 245.

Limonia? Laureola Decand. Prodr. 1. p. 536.
Habitat in montibus Napaliæ; in Sirmore (G. Govan, M.D.); in Kamaon (Blinkworth). Floret Aprili.

Frutex pulcherrimus, quadripedalis, erectus, inermis, glaberrimus, odore omnium partium viridium tritorum valdè grato, citrino. Rami cylindrici, cinerei, subdichotomi, nunc subverticillati. Folia ad apices ramorum approximata, sparsa et undiquè patentia, nunc subopposita ternatave, oblongo-lanceolata, acuta, deorsùm attenuato-acuta, integerrima, brevè petiolata, 3—5-pollicaria, lævia, lucida, punctis frequentissimis pellucidis notata, suprà atroviridia, subtùs flavicantia, costâ gracili, subcarinatâ, nervis inconspicuis. Petiolus crassiusculus, semiunguicularis, suprà planus. Flores pallidè flavi, fragrantissimi, densi, dispositi in *corymbum* terminalem, erectum, subsessilem, compactum, ovatum, obtusum, foliis summis breviorem, 2—3-pollicarem. Rachis crassus, angulosus, *pedunculi*que teretes breves pubescentes, purpureo-punctulati. Bracteæ duæ versus apicem pedicellorum oppositæ, lanceolatæ, subadpressæ, pubescentes, basi subgibbosæ; aliæ infra pedunculos fasciculorum florum majores, solitariæ, caducæ. Calyx ovatus, basi puberulus; *laciniæ* ovatæ, obtusæ, ciliatæ. Petala 5 oblonga, obtusa, lineas 3 emetientia, calyce triplò longiora, basi parùm angustata, suprà notata lineâ elevatâ. Stamina 5 erecta, distincta, longitudine petalorum, cumque his alternantia, disco obsoletissimo inserta; *filamenta* carnosa, subulata; *antheræ* erectæ, ovatæ, parùm complanatæ, utrinquè dehiscentes, basi subbilobæ. Ovarium ovatum, carnosum, glabrum, glanduloso-punctulatum, 2-(3-?)loculare, 2-spermum, *ovulis* pendulis; *stylus* carnosus, staminibus brevior, sulcatus 2-(3-?)fidus, lobis divergentibus; *stigmata* parva, convexa. Bacca ovata, lævis, magnitudine ferè fructus oleæ sativæ, 1-locularis (2-locularis, loculis monospermis, altero sæpiùs abortiente?). Embryo inversus, viridis.

Plate CCXLV. Fig. 1. Flower-bud. 2. 3. Expanded flower. 4. The same, dissected. 5. Ovary, opened.

PINUS Smithiana. Tab. 246.

Foliis solitariis, gracilibus, tetragonis; antheris longissimis, cristâ crenatâ; strobilis terminalibus, solitariis, erectis, ovato-oblongis, squamis obovato-rotundatis, planis.

Habitat in montibus Himalayæ proximis, ubi legerunt Webb, Govan et Blinkworth. Floret fructificatque Majo et Junio.

Nomen monticolarum: *Raga*.

Arbor vasta. Rami cylindrici, subopposditi, distichè patentes, cinerei, pube brevi, patulâ obsiti, tuberculis ab insertione foliorum decurrentibus densissimè notati, cinerei, recentes fusci. Folia densè approximata, sparsa, erectiuscula, vel subincurva, subsecunda, solitaria, subulato-subtetragona, acuta, integerrima, saturatè viridia, sessilia, pollicem ad sesquipollicem longa. Amenta *mascula* terminalia, solitaria, ovata, magna, pollicaria, basi circumdata involucro calyciformi e squamis conflato ovatis, ciliatis, imbricantibus, apice tandem recurvato-patulis, stipitem brevem staminum filiformem includente; *antheræ* valdè densè imbricatæ, lineari-clavatæ, elongatæ, lineas 4 emetientes, loculis gracilibus, longissimis, cristâ terminatæ subrotundâ, crenato-fimbriatulâ, divaricato-erectâ. Strobilus terminalis, oblongus, vel ovato-oblongus, obtusus, nunc attenuatus, sessilis, basi acutiusculâ nudus, 4—6-pollicaris, fuscus, lævissimus, glaucescens; *squamæ* rigidæ, subrotundo-ovatæ, obtusissimæ, laxiusculè imbricantes, demùm patulæ, integerrimæ, marginibus subincurvis, dorso versus apicem levitèr convexæ, basi contractæ, pollicem ferè longæ. Semina parva, angulata, alâ terminata cuneatâ, pallidè ferrugineâ, retusâ, sursùm crenulatâ, unguem longâ.

This tree seems to be allied to Tournefort's *Abies orientalis*, and still more so to the specimen from China, figured in Mr. Lambert's splendid Monograph, plate 29. It is however a distinct species, and as such I have dedicated it to the late immortal President of the Linnean Society.

Plate CCXLVI. Fig. 1. 2. 3. Scale, detached. 4. Seed. 5. 6. Leaf.

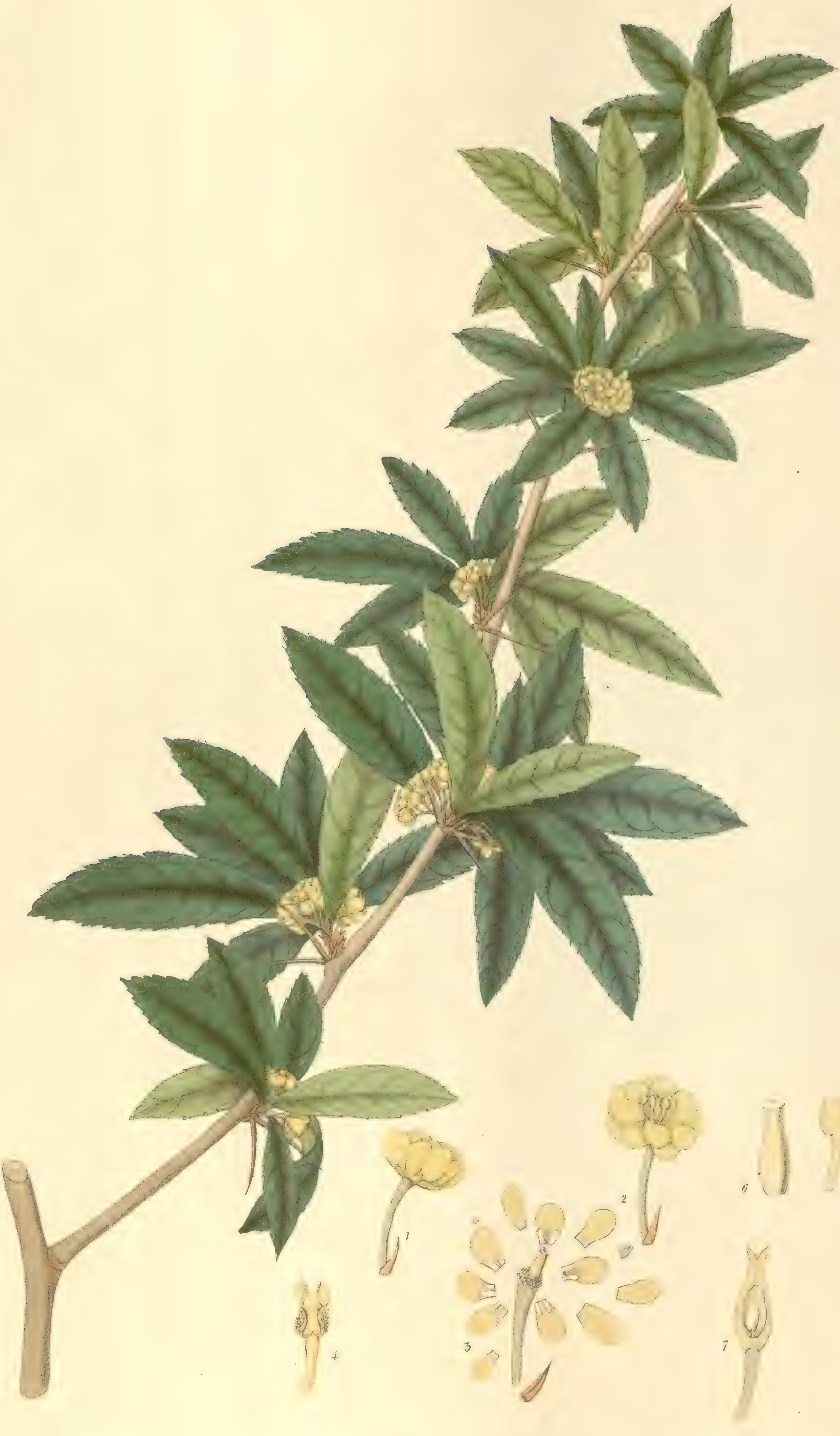
PINUS Brunoniana. Tab. 247.

Foliis solitariis, planis, secundis, apice serrulatis, subtùs lacteo-furfuraceis; strobilis terminalibus, erectis, ovatis, obtusis.

Habitat in Butan, W. S. Webb. In Napalia crescit ad Bunipam et ad Gossain Than. Floret fructificatque Majo et Junio.

Nomen vernaculum: *Tangshing* et *Changathasi-Dhup*.

Arbor procera, 70—80-pedalis, trunco recto 15—20-pedali, comâ patulâ, valdè ramosâ. Ramuli cylindrici, graciles, nutantes, fusci, asperi propter tubercula e foliorum insertione lineâ latâ, in novellis ramulis pilis ferrugineis pubente, decurrentia. Folia valdè approximata, solitaria, sparsa, patentia, secunda, ad faciem nempè rami superiorem tendentia, recta, linearia, obtusa, plana, margine subincrassato, paullò decurvo, ultra medium vel apice tantùm sub lente setaceo-serrulata, pollicaria, glabra, coriacea, perquàm decidua, suprà lætè viridia, nitida, vix glaucescentia, subtùs niveo-furfuracea, costâ elevatâ; suffulta *petiolo* incurvo, canaliculato, brevissimo. Amenta *mascula* numerosissima, parvula, ovata, axillaria et terminalia, foliis quadruplò breviora, *squamis* ovatis, basin stipitis filiformis laxè imbricantibus; *antheræ* subrotundo-reniformes, apiculatæ, fuscescentes; *filamenta* capillacea brevissima. Strobilus terminalis, sessilis, ovatus, vel oblongo-ovatus, obtusus, demùm apice subfastigiato-patulus, pollicaris, pallidè fuscus, glaucescens, basi ad insertionem squamulis plurimis gemmaceis ovatis, obtusis munitus. Squamæ laxiusculè imbricatæ, planæ, ovatæ, valdè obtusæ, apice sub lente minutìm crenulatæ, cæterùm integerrimæ, parallelè lineolatæ, unguem longæ, demùm patentiusculæ, basi munitæ squamulâ exteriore accessoriâ reniformi, subunguiculatâ, ciliatâ, emarginatâ et cuspidulatâ, persistente. Semina parva, compressiuscula, angulata, alâ oblongâ, obtusâ, pallidè ferrugineâ, lineas 5 longâ, squamâ paullò breviore.

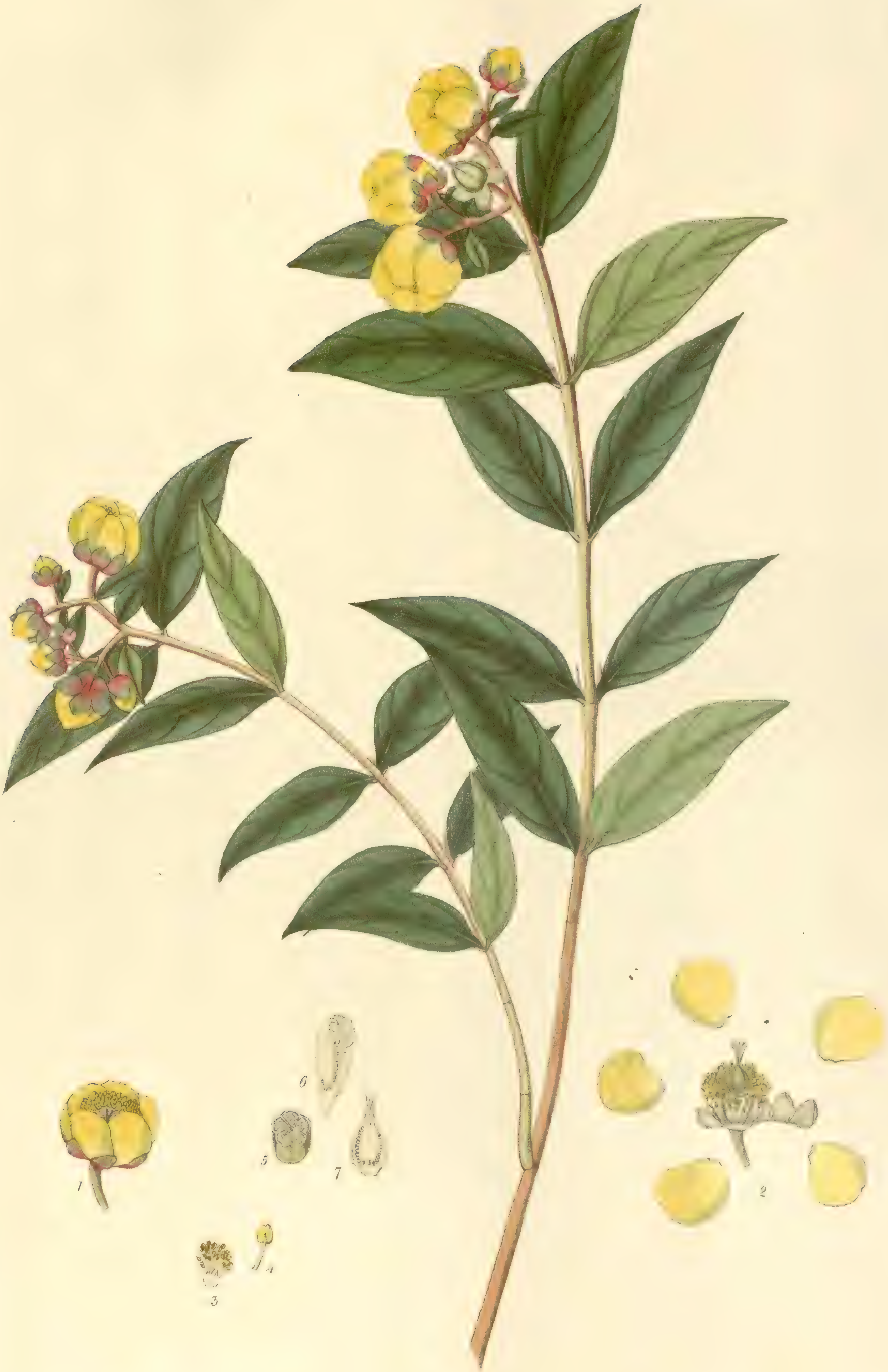


Berberis Wallichiana

Printed by Engelmann & Co

M. Gauci lith

Gorachand del

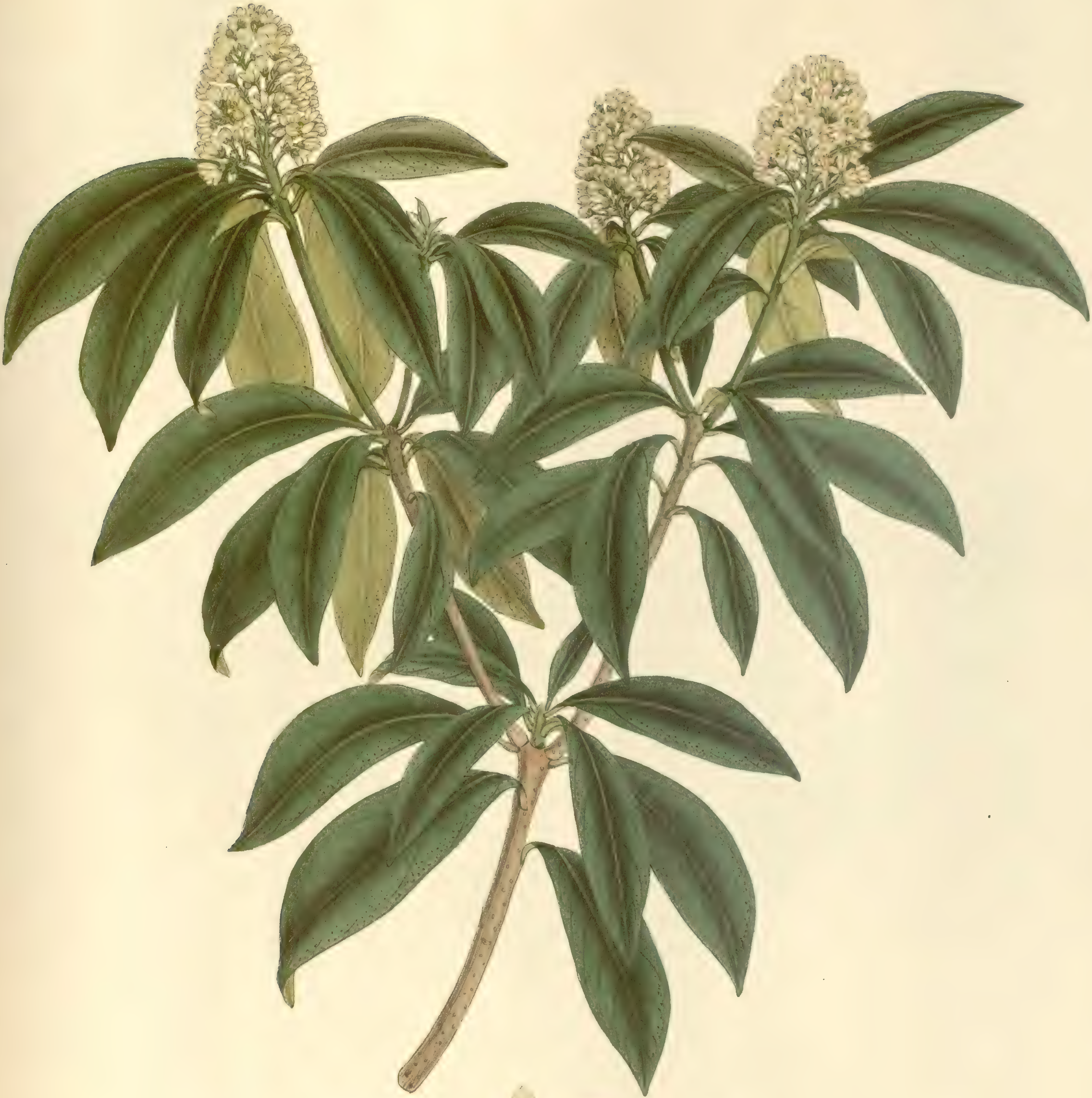


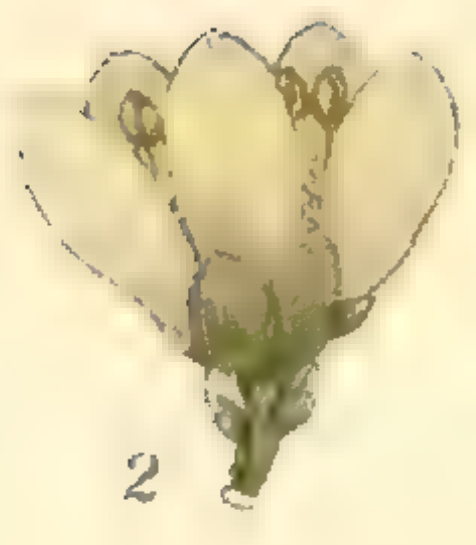
Hypericum oblongifolium

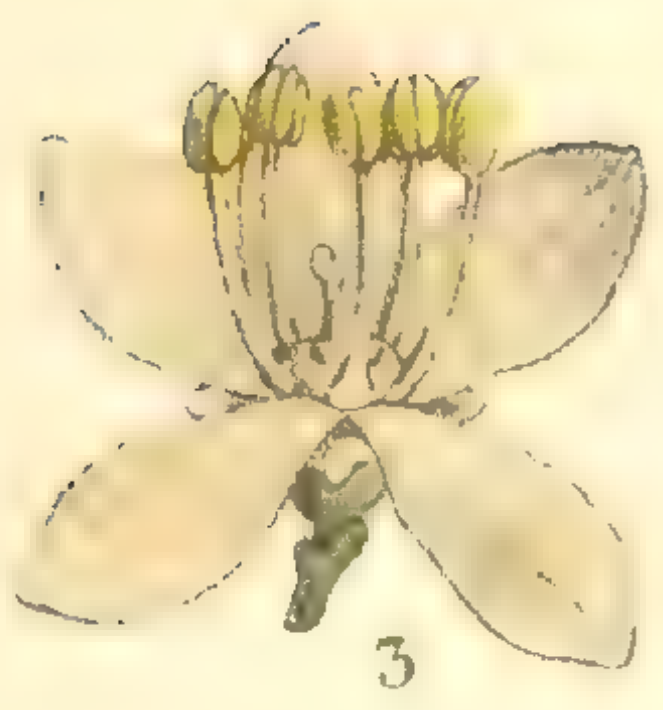
Vishnupersaud del^t

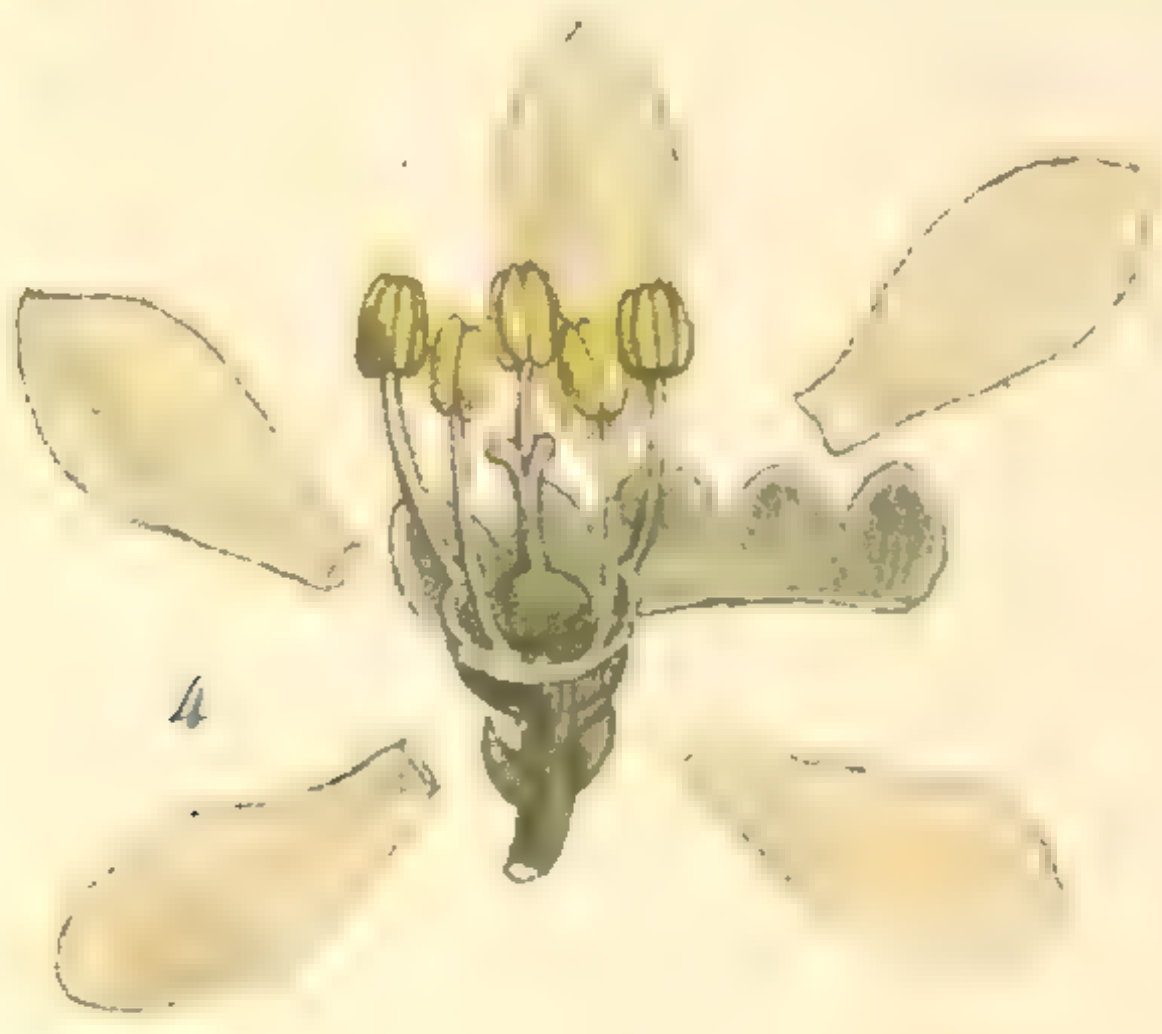
Printed by Engelmann & Co.

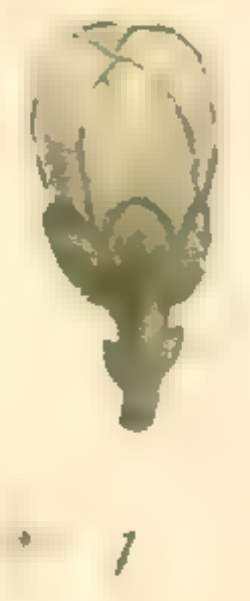
M Gauci lith.

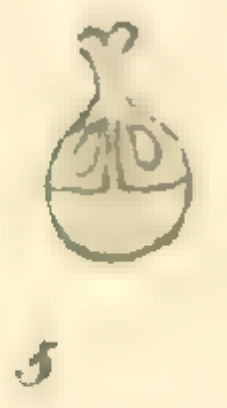












Limonia Lauicola

Gorachaud delᵗ

M Gauci lith

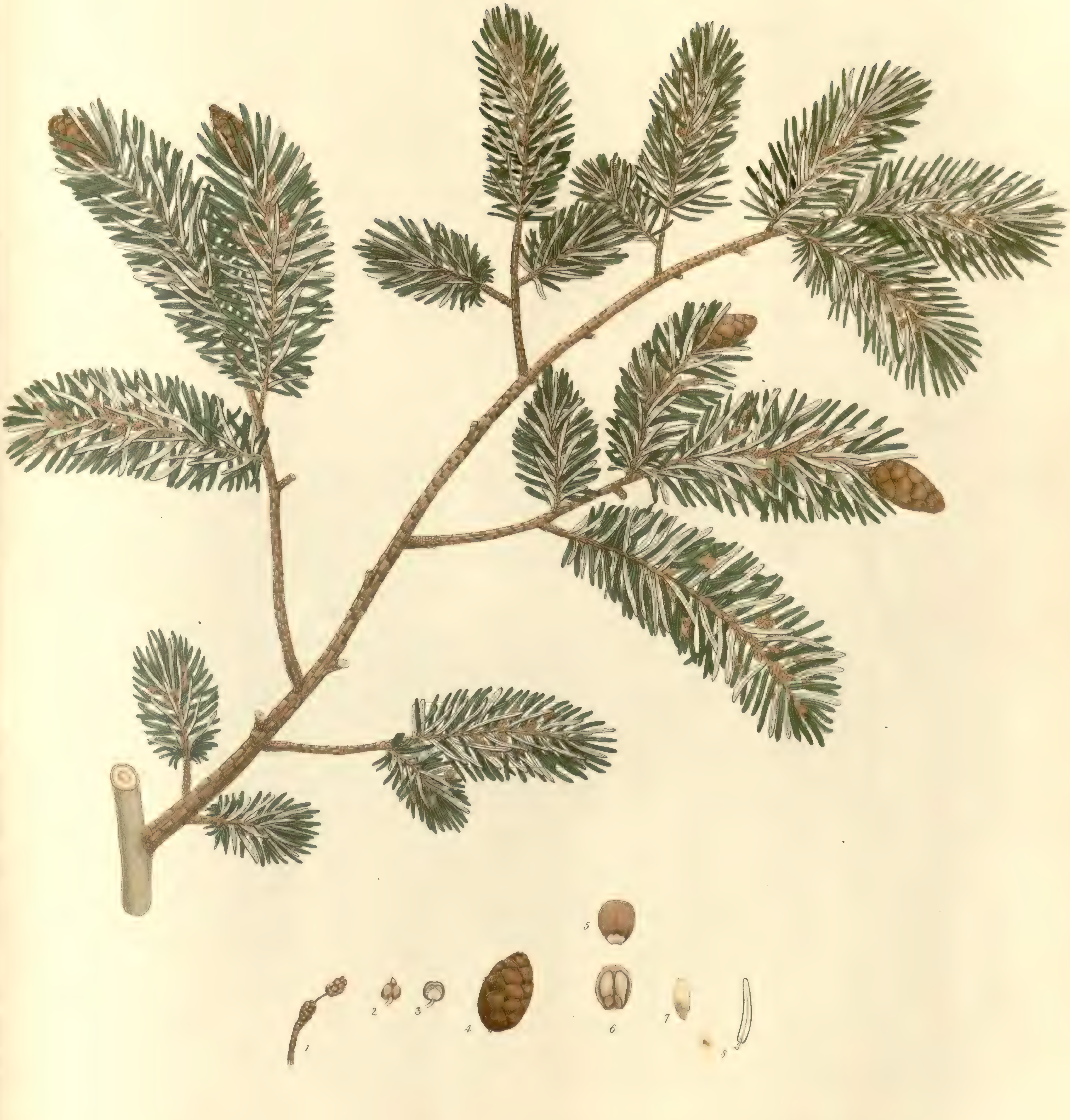
Printed by Engelmann & Co

Pinus Smithiana.

Gerachand. delt

M. Gauci lith

Printed by Engelmann & Co



Pinus Brunoniana.

Gorachand del.

Printed by Engelmann & Co.

M. Gauci lith.

The first discoverer of this tree was Captain Webb, to whom we are indebted for much important and valuable information concerning the geography and natural history of the Himalaya and the lofty mountains contiguous to it, and to whom I have dedicated a noble species of Pine, with large dark-purple cones, from which the Tartars prepare a sort of indigo. He found it on the southern confines of Bhote (Butan), where it forms a spreading beautiful tree, seventy to eighty feet high, throwing out branches at fifteen or twenty feet, with leaves so extremely deciduous that the slightest shake of the branch is sufficient to detach them. The natives call the tree *Tangshing*. They do not use the wood, as it is liable to warp. I have found the tree at Bunipa in Nipal, attaining a very large size: and it also grows at Gossain Than, where it is called *Changathasi Dhup* (the last word meaning Fir). It comes near to *Pinus canadensis*, but differs in the larger obtuse cones, and the partially serrulated leaves, which are covered underneath with milk-white mealiness.

I sent abundance of specimens home to the museum at the India House in 1824, marked *Pinus decidua*, under which name duplicates were distributed in the following year by order of the Hon. Company. I adopted that name in conformity with Captain Webb's remark, which I had verified repeatedly, by observing that not a single leaf would remain attached after a branch had been put between paper, even for a single day only; but as it is objectionable, I now call the species after my inestimable friend Mr. Brown.

Plate CCXLVII. Fig. 1. Male ament. 2. 3. Detached stamens. 4. Ripe cone. 5. Detached scale showing the outer appendix at the base. 6. The same, viewed from within, showing two seeds *in situ*. 7. A bud. 8. A detached leaf, seen from below.

ERIOCAULON BROWNIANUM. Tab. 248.

RHIZOMATE annuo (?) inter folia parcè arachnoideo; scapis quinquangulis (sesquipedalibus), parcè pilosis; foliis linearibus, acutis, scapos subæquantibus vaginisque pilosis; capitulis tandem hemisphæricis sphæricisve; bracteis involucralibus oblongis, obtusis, testaceis, interioribus spathulato-rhombeis perianthiisque plumbeis albo-barbatis; rhachi pilosâ.—*De Martii MSS.*

In Sillet crescentem legit et retulit F. de Silva.

RHIZOMA parvum, subglobosum, ubique obsessum radiculis subsimplicibus, fibrosis, albis, pollicem et quod excedit longis. FOLIA erecta, pedem et sesquipedem longa, linearia, duas vel duas cum dimidia lineas lata, acuminata, acuta, imâ basi nonnihil dilatata et vaginantia, margine ibidem latiùs albido-extenuato, omni longitudine striata, plana aut complicata, nervio medio nonnihil prominente munita, pilis albis, patulis, tenuibus ubique adspersa. Lana arachnoidea plumbeo-cinerascens, intra foliorum basin irregulariter expansa, eaque ibidem connectens. VAGINÆ foliis breviores, scaporum tertiam dimidiamve longitudinem æquantes, arctæ, teretes, longitudinaliter striatæ, apice obliquæ, pilis albis patulis pubentes. SCAPI sesqui- immò ferè bipedales, erecti, stricti, angulis quinque acutis prominulis instructi, inter eos obscuriùs virides, pariter ac vaginæ foliaque pube, sursùm tamen parciore, muniti. CAPITULA circiter tres ad quatuor lineas diametro æquantia, primùm hemisphærica, sursùm planiuscula, demùm hemisphærica aut tandèm subglobosa. FLOSCULI intra bracteas (uti in *E. Wallichiano*) plerumque phyllo-taxi $\frac{3}{5}$ $\frac{2}{5}$ positi. BRACTEÆ VACUÆ, involucrales, circiter duodecim, oblongæ, apice rotundatæ, plumbeo-fuscidulæ, nitidæ, margine integerrimæ, passim pilis tenuissimis adspersæ, quales etiam in rhachi (receptaculo communi) intra singulos flosculos crebrò enascuntur. BRACTEÆ INTERIORES rhombeæ, at basin versus longiùs cuneatæ, apice inflexo pilis erectis, nitidis, eburneo-albis barbatæ. Pili alii nonnulli subulati, septati, diaphani, quales per rhachin sparsi, in basi quoque bractearum. FLORES FŒMINEI intra bracteas serierum exteriorum, densè compacti, ita quidem, ut interdum duo ex unicæ bracteæ axilla progredi videantur, bracteâ alterâ detrusâ; lineam longi. FOLIOLA CALYCIS e cellulis angustis facta, infernè nigricanti-plumbea, supernè ad medium usque albo-barbata pilis rigidis, eburneis, sub lente simplicibus quidem attamen septatis, erectis; duo lateralia carinata seseque ad marginem nonnihil vaginantia; posticum lato-ovatum, planius, illa latitudine ferè æquans, minùs barbatum. PETALA basi in stipitem tenuissimum connata, vix lineæ $\frac{2}{3}$ longa, infernè linearia, nuda, virescentia, supernè in penicillum tenuem pilorum septatorum, quales in calyce proveniunt, attamen nonnihil crassiorum, abeuntia, medioque pilis nonnullis opacis in palmatam formam confluentibus terminata. OVARIUM trilobum, oblongum. STYLUS infernè simplex, supernè in *stigmata* tria subulata rudia solutus. PETALA in sinus ovarii fructiferi immissa, superque illud conniventia. FLORES MASCULI intra serierum interiorum bracteas, quæ paullò angustiores sunt, longiusculè pedicellati. Calycis foliola hujus pedicelli mediæ circiter parti adnascuntur, petala apici. CALYCINA FOLIOLA oblanceolata, basi longè attenuatâ confluentia, nigro-cinerascentia, facta e cellulis infernè longioribus tenuioribus, supernè brevioribus latioribus et pachydermis, ideòque sursùm obscuriora, apice cristâ densâ, latâ pilorum alborum, longitudine subæqualium ornata. COROLLA tubæformis, petalis longè connatis, extus pilis albis tenuibus ipsius longitudine villosa. LACINIÆ limbi lineares, pilis albis, opacis, subulatis terminatæ et dorso extùs involutæ pilis strictis, intùs pro nervo lineâ obscuriore notatæ. STAMINA sena: *filamenta* tria, quæ divisionibus corollæ opposita longiora; subulata. ANTHERÆ lineari-oblongæ, bilobæ, erectæ, basifixæ, nigricantes, polline globoso, flavo-virescente farctæ. Post antherarum lapsum filamenta sæpè excrescunt.—*De Martius.*

Plate CCXLVIII. (All the dissections more or less magnified). Fig. 1. A capitulum after impregnation, seen sideways. 2. The same, seen from beneath. 3. 4. Scales of the interior ranges, which contain female flowers. 5. Female flower, in the axilla of its

scale, seen from behind. 6. The same, the posterior leaflet of the calyx bent down to show the corolla. 7. A female flower in the state of maturation, with the calyx expanded. 8. The same, without its calyx; one of the cells of the ovary opened to show the seed. 9. The pistil. 10. A seed not fully ripe, and therefore apparently longer than it would be when quite ripe. 11. The scale of a male flower, seen from the exterior side. 12. Male flower, seen from the exterior side; the leaflets of the calyx imbricate. 13. Male flower, expanded. 14. Segment of the corolla of a male flower, with a stamen. 15. 16. Anthers seen from both sides, with two globules of detached pollen.

ERIOCAULON Wallichianum. Tab. 249.

Rhizomate perenni, inter folia arachnoideo; scapis (sesquipedalibus) glabris, folia linearia acuta glabra vaginasque parcè pilosas duplò superantibus; capitulis firmulis, tandem conicis, bracteis involucralibus alutaceis, nitidis, suborbicularibus, interioribus apice albo-pulveraceis, perianthiis albidis, tenuissimè albo-pulveraceo-ciliatis.—*De Martii MSS.*

In Tavoy detexit Gul. Gomez.

Rhizoma cylindricum, crassitie digiti minimi, simplex, interdùm biceps aut multiceps, intùs carnosum, albidum, extùs infernè ubique densè obsitum radicibus filiformibus, subsimplicibus pollicem et ultrà longis, albis, succosis, fibrilloso-tomentosis. Innititur rhizomati cæspes foliorum et scaporum sesquipedalis, erectus, strictus. Folia primordialia squamæformia, angusto-lanceolata, alba, tenera, in summo rhizomate tandem delitescentia. Reliqua folia (s. *radicalia*), quæ in cæspite exteriora, ima basi vaginantia, linearia, breviter acuminata acutaque, pedem circitèr longa, semipollicem lata, nervis parallelis pluribus percursa, cellularum septis transversis valdè conspicuis, præcipuè dùm juniora, nonnihil fenestrata, glaberrima, pallidè viridia, basi albida. Vaginæ pro singulis scapis singulæ, quàm folia nonnihil breviores, spithameæ, infernè teretes et striatæ, supernè subancipites, apice obliquè apertæ, in ima basi villo cinerascente tenui quidem at tenaci atque in floccos arachnoideos contexto instructæ, sursùm nudæ præter pilos tenues longiusculos albos hinc indè, præsertim apicem versus, sparsos; intùs in basi pariter arachnoideo-pilosæ. Scapi pedales et sesquipedales, tenues, strictiusculi, angulis sex prominentibus quàm facies pallidioribus notati, desiccati nunc dextrorsùm nunc sinistrorsùm contorti, glabri. Flosculi densè compacti in capitulum primò hemisphæricum, dein, dùm bracteæ involucrales ab illis altitudine superantur, conicum et obtusum. Bracteæ capituli extimæ circitèr 13—15 vacuæ, atque involucrum constituentes, quoad formam et substantiam in interiores sensìm sensìmque transeuntes, arido-membranaceæ, nitidæ, pallidè alutaceæ, margine nonnihil extenuato et nonnunquam fimbriato-lacero pallidiore, albido, suborbiculares, aut latiores quàm longæ, versus basin paullò attenuatæ, uti omnes totius capituli squamæ densissimè imbricatæ. Squamæ *interiores* s. *fertiles* e forma suborbiculari in rhombeam abeuntes, lateribus binis superioribus brevioribus (itaque cuneato-rhombeæ nuncupentur); eâ, quâ se invicem tegunt, parte alutaceæ, nitidæ, in libera verò, nonnihil introrsùm flexa cinerascunt atque tomento tenuissimo, albo, detergibili e squamulis siccis albidis conicis, interdum bi- vel tri-septatis, constante sunt obsessæ; nervus medius ibidem nonnihil tumet atque in mucronulum subtilissimum abit. Flores sub antheseos et maturationis stadio facie diversi; anthesi tàm fœminei quàm masculi bracteæ, cui singulus subest, pressione ita comprimuntur, ut planissimi evadant atque multâ diligentiâ opus sit, ut ritè acu possint divelli. Flores fœminei exteriores series occupant; *masculi* tunc insequuntur interrupto tamen ordine, ita ut sparsi inter fœmineos interiores sæpè occurrant solitarii masculi. Flores verò fœminei non interrupto agmine primas spiras omnes tenent. Calyx triphyllus, membranaceus, albus, siccus, foliolis e cellulis elongatis conflatis. Duo foliola antica obliquè oblonga vel oblanceolata sunt, acutiuscula, ad basin angustiora, infernè glabra, nitidula, supernè pilis minimis eburneo-nitentibus densè et subtomentoso-adspersa, margineque (sub lente composita) ciliata, vix ⅘ lineæ longa, ⅕ lata, sibi basi vaginante arctè imbricata atque unà cum foliolo postico quod duplò angustius est, corollam densè obvallantia. Petala alba, calycem vix æquantia, linearia, in penicillum pilorum septatorum ab apice ad medium usque secta. Ovarium pedicello brevi insidens, cordato-ovatum, trilobum, viride, glabrum. Stylus teretiusculus, in *stigmata* tria longa subulata divisus. Ovula solitaria, pendula, placentatione immediatâ, ex interno ovarii angulo. Perianthium hoc fœmineum persistens statu fructescentiæ latescit. Foliola calycina dorso quasi in alam transversam s. cristam tenuissimè denticulatam anticè prominent, mediò autem à pressione fructus concava fiunt atque indè margines exhibent anticum et posticum inæquales. Petala calyce paullò minora, infernè linearia, supernè barbam tunc, uti videtur, magìs divisam aut longiorem porrigunt. Capsula membranacea in tres loculos tumet, singulos monospermos et medio dorso longitudinaliter dehiscentes. Semina grani papaveris dimidiam magnitudinem æquant, subglobosa, basi (superâ in ovario) hili areolâ sàt conspicuâ orbiculari, apice in brevissimum mucronulum apiculata. Testa rufa, duodecim cristulis parùm elevatis, instructis seriebus totidem pilorum tenuissimorum longitudinalibus, qui apice depresso dilatato claviformes aut breviter subbifidi apparent. Compages testæ: e cellulis hexagonis, tenuibus præditis parietibus. Albumen farinaceum. Embryo minimus subglobosus. Flores masculi sub anthesi lineæ duas tertias circitèr æquantes, bractearum pressione ferè complanati. Pili tenues, pellucidi basin florum circumdantes. Calyx campanulato-tubæformis, breviter pedicellatus, sicco-membranaceus, albus, e cellulis elongatis factus. Foliola bina antica sibi opposita atque basi vaginantia, obliquè oblonga, ac anticè in margine pilis subtilibus eburneis, opacis, nitidis, nonnunquam omninò deciduis, ciliata; foliolum tertium s. posticum margine a lateralibus tectum, apice emarginato-detruncatum et subsinuato-dentatum, pilis destitutum. Corolla omninò calyce tecta, tenuissimè membranacea, albida, basi, quæ stipitis in modum deorsùm producitur, virescens, tubæformis. Limbi *laciniæ* brevissimæ, subtriangulares, ornatæ cristis minimis palmatifidis, quæ revera sunt series pilorum cylindricorum simplicium aut semel bisve septatorum, basi confluentium. Infra divisionem corollæ laciniarum medio adnata conspicitur squamula minima, palmato-lobata, nigricans, solida. Stamina sex, deorsùm intra corollæ tubum confluentia, illius limbo longiora, subulata, viridia; tria, quæ laciniis corollæ opposita, longiora. Antheræ ovatæ, cordatæ, magnitudine ferè æquales, eæ tamen, quæ filamentis longioribus adnatæ connecticulo instructæ evidentiore

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Eriocaulon Brownianum

Printed by Engelmann & Co.

M. Gauci lith.

ad plantam.
rbus analysin del.

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Eriocaulon Wallichianum

M Gauci plantam
Von Martius analysin del.t
M. Gauci lith
Printed by Engelmann & Co.

atque in locellos magìs sejunctos lobatæ, basifixæ, locellis turgidis antrorsùm mediò dehiscentes, in sicco specimine olivaceo-nigricantes. Pollen globosum, flavidulum. Post anthesin hi quoque masculi flores mutantur: corollæ scilicet unà cum filamentis, quorum antheræ jamjam dejectæ, nonnihil excrescunt, firmioresque fiunt atque carunculæ glandulosæ, squamæformes, triangulares vel sublobatæ vel infra stamina vel in ipsis passim apparent.

The above masterly account of the subjects represented in plates 248 and 249, the reader will observe, is from the pen of Professor Von Martius of Munich; and I have further to thank that excellent friend for the following valuable Synopsis of the families *Eriocauleæ* and *Xyrideæ* (formerly comprised under *Restiaceæ*) in the Herbariums of the Hon. East India Company at present under my charge.

Plate CCXLIX. (The parts more or less magnified.) Fig. 1. A head of flowers, seen from one side. 2. Base of the same, with the peduncle. 3. Bractea of the exterior range. 4. Bractea of the interior range. 5. 6. The two lateral leaflets of a female calyx. 7. A female flower, seen from the interior side, the upper part of the posterior leaflet of the calyx being cut away. 8. The same, seen from the exterior side, less magnified. 9. Pistil. 10. 11. Seed. 12. Section of the seed, exhibiting the embryo and the disposition of the hairs on the testa. 13. A single hair of the seed. 14. A young male flower, viewed from the exterior side. 15. An advanced male flower, from the interior or posterior side. 16. Hair of the male calyx. 17. Withered male flower. 18. Corolla of the same. 19. Corolla and stamens of an expanded male flower. 20. Stamen of the exterior series.

ERIOCAULEÆ ET XYRIDEÆ INDIÆ ORIENTALIS.

Exposuit C. F. P. De Martius, *Professor Monacensis.*

ERIOCAULON Gronov.

Linn. Gen. 100. Brown Prodr. Flor. Nov. Holl. p. 253. (Nasmythia *Huds.* Leucocephala *Roxb. MSS.* Randalia *Petiv.*, *Pal. Beauv.* Sphaerochloë et Symphachne? *Pal. Beauv.*)

Character naturalis. Flores minuti, plurimi in capitulum androgynum per spiras arctissimas compacti, super rhachin (receptaculum) (planum aut convexum, nudum aut pilosum), persistentes, singuli fulti bracteâ (squamâ, *Br.*), quarum extimæ sæpè vacuæ involucrum constituunt. Calyx triphyllus: foliis binis anticis, tertio postico (Δ); aut diphyllus. Corolla tripetala (▽), aut dipetala, substipitata, aut petalis (in ♂) deorsùm longiusculè connatis tubæformis vel infundibuliformis, in floribus fœmineis semper distinctis. *Masculi* in disco capituli. Stamina sena aut quaterna, longiora corollæ divisionibus opposita. Antheræ basifixæ, ovato-didymæ, bilocellares, locellis mediò longitudinaliter bivalvibus. Pollen globosum. *Fœminei* in ambitu capituli. Ovarium (superum) triloculare, globoso-trilobum, loculis duobus posticis (▽), aut biloculare, didymum (rarissimè, in speciebus brasiliensibus, quadriloculare). Ovula solitaria, pendula. Stylus centralis, basi simplex, sursùm in crura tria (rarò duo, rarissimè quatuor) subulata, cellulis longiusculis stigmatosa, divisus, persistens. Capsula tenuiter membranacea, globoso- ovato- aut oblongo-triloba bilobave, dehiscentiâ loculicidâ, petalis in sinubus valvularum persistentibus cincta, tandem hygroscopicè se contorquens. Semina minima, oblonga aut cylindracea, solitaria, pendula, ad hilum acutiuscula. Testa simplex, cristis longitudinalibus (semper 12?), quæ pilis tenuissimis pellucidis apice clavæformibus instruuntur. Albumen farinaceum, album, semini conforme. Embryo ovato-globosus, minimus, in extremitate hilo opposita, hìnc testæ, indè albumini contiguus.—Herbæ annuæ perennesvè, acaules; rariùs herbæ aut suffrutices caulescentes. Radices plurimæ fasciculatæ, albidæ. Caulium loco in pluribus rhizoma, nunc tenue, nunc crassum, carnosum, ubique phyllophoron; in paucioribus caulis adest fluitans radicans, aut erectus divaricato-ramosus, foliosus, subindè inter pedunculos lateraliter proliferus. Folia numerosa, in acaulibus speciebus omnia radicalia rosulata, caulina alterna, sessilia, basi membranaceâ vaginantia, angusta, parenchymate regulari rectangulo sæpè quasi fenestrata, rarò ob lacunas centrales seriatas quasi fistulosa, lætè viridia, basi membranaceo-albida. Scapi e rhizomatibus aut pedunculi e caulibus, solitarii, pluresvè aggregati, certo angulorum numero distincti, e vagina prodeuntes, ipsorum basin amplectente, cylindrica, ore transversè aut obliquè truncata; singuli singulum ferentes capitulum multiflorum. Bracteæ (squamæ, *Br.*, convenientes paleis *Compositarum*) periphericæ pleræque vacuæ, firmiores sicciores que involucrum formantes, nudæ; interiores teneriores singulæ florem emittentes atque fulcrantes, anticè barbatæ aut villosæ pilis albis opacis, rarò glabræ. Calyces sæpè cinerascentes aut plumbei. Corollæ laciniæ aut petala sæpè cristulis formæ variæ (palmatis, lobatisque, quasi essent pili confluentes et connati) apice dorsove ornata.

Observatio. Præeunte cel. *Richardio* (Annal. du Mus. d'Hist. Nat. tom. 17. p. 52.), quem jam cel. *Kunthius* (Nov. Gen. vol. i. p. 251) insequutus est, *Eriocauli* genus, unà cùm *Tonina* Aubl. (*Hyphydra* Vahl.) proprium plantarum ordinem efformare judico, inter Restiaceas et Xyrideas medium. De hujus notis affinitatibusque disserere heic locus non est. Id unum moneo, cardinem diagnoseos versari in partium perianthii dispositione, antherarum fabrica, ovulorum directione, ovarii loculis monospermis distinctis, placentatione immediata, seminum hirsutie singulari, embryonis situ, habitu. Calycis dispositio in Eriocauleis et Xyrideis: Δ, in Restiaceis: ▽; quam quidem perianthii partem verum esse calycem neque bracteas approximatas (quod *Toninæ* levis inspectio indigitare videretur) autumo. In illis porrò ordinibus antheræ bilocellares, in Restiaceis ferè omnibus (quas examinavi) unilocellares. Conveniunt Eriocauleæ cum Restiaceis ovarii loculis monospermis, ovulis pendulis, eâque notâ differunt a Xyrideis, quæ ovula in longis funiculis peritropia plurima erigunt, intra capsulam unilocularem (attamen tribus phyllis factam). Hæc sufficiant.

Species hujus generis quæ in India Orientali provenientes exstant in herbariis inclytæ et amplissimæ Procurationis Britannicæ Indiæ Orientalis, pro tempore sub custodio Wallichii, hæ sunt:

1. *E. Wallichianum.* Vid suprà, p. 26.

Crescit in Tavoy (*W. Gomez*). In herbario Wightiano sine nomine et loco. Eadem species, verosimiliter e Ceylona a Burmanno ad

Schmiedelium missa habetur in herbario Schreberiano, nunc Academiæ Regiæ Monacensis, adscripto nomine indico Cockmotte.

2. *E. Wightianum;* rhizomate perenni, inter folia parcè arachnoideo; scapis sex—septangulis, sesquipedalibus, patentim pilosis, quàm folia lineari-lanceolata, obtusiuscula vaginæque pubenti-pilosæ subduplò longioribus; capitulis tandem globosis; bracteis omnibus subrhombeo-oblongis, acutis, albidis, albo-barbatis villosisque; perianthiis albidis, apice albo-barbatis.

Habitat ad Moalmyne in Martabania (*Wallich*, 1827). Herb. Heyne (ubi *E. sexangulare* dicitur). Huic speciei præ aliis habitu accedit *E. decangulare* Linn., Americæ borealis incola.

3. *E. Brownianum.* Vid supra, p. 25.

Crescit in Sillet (*Fr. de Silva*).

4. *E. oryzetorum;* rhizomate annuo, inter folia arachnoideo; scapis sexangulis (ultrapedalibus) strictis, glabris, folia lanceolata, acuta, fenestrata vaginasque glabra triplò superantibus; capitulis tandem globosis; bracteis involucralibus testaceis, nitidis, oblongis, obtusis, interioribus mucronulatis, subdentatis, dorso barbulatis; perianthiis fusco-plumbeis albo-ciliatis.

In agris oryzaceis Napaliæ (*Wallich*).

5. *E. cristatum;* rhizomate multicipiti (perenni?), inter folia arachnoideo; scapis sexangulis (pedalibus) folia angusto-linearia, acutiuscula duplò, vaginas acuminatas subquadruplò superantibus foliisque glabris; capitulis dioecis depresso-globosis; bracteis involucralibus obovato-obtusis, testaceo-plumbeis, interioribus trapezoideo-rhombeis calycibusque plumbeis corollisque albis albo-cristatis.

Crescit in montibus Sillet confinibus (*Henricus Bruce* et *Fr. de Silva*).

Species dioeca. In speciminibus masculis folia longiora et latiora observavimus. Masculorum capitulorum flosculi numerosi. Bracteæ involucrales obovatæ, obtusæ, irregulariter laceræ at non mucronatæ, lineæ $\frac{2}{3}$ longæ, testaceæ, versus apicem plumbeæ, glabræ. Bracteæ interiores elongato-spathulato-rhombeæ, breviter mucronulatæ et in dorso introrsùm flexo pilis albis, erectis barbulatæ. Calyx plumbeus, foliolis lateralibus carinatis, tertio plano, ovato, omnibus pilis eburneis cristatis. Pili geniculati opaci et alii pellucidi longiores calycis basi adstant. Corolla alba, tubuloso-tubæformis, extùs parcè pilosula, petalorum laminis longè albo-cristatis, cristâ post anthesin super calycem et bracteam emergente. Stamina sex, antheris globoso-ovatis, nigricantibus. In commissuris petalorum vel ad latera corpuscula glandulosa nigricantia. Fœmineorum calyx uti in masculis; corolla longior et longiùs divisa, petalis latioribus pariter albidis pilosulisque, cum appendiculis nigricantibus. Ovarium trilobum. Ovulum unicum pendulum. Stylus ad medium trifidus.

6. *E. luzulæfolium;* glabrum, caule perenni, simplici, radiculoso, apice folii- et florigero; pedunculis quinquangulis folia angusto-lanceolata, acuminata, subtùs fenestrata quintuplò et ultrà superantibus; capitulis tandem hemisphæricis; bracteis involucralibus subtruncato-oblongis, testaceis, nitidis, interioribus nudiusculis perianthiisque apice albo-barbulatis cinereo-nigricantibus.

Crescit in Sillet (*Bruce*).

Caules infernè radicibus densis albidis obtecti, supernè densè foliiet pedunculigeri. Folia sesquipollicaria; scapi tandem ultrapedales, rigiduli, strictiusculi. Vaginæ subangustæ. Bracteæ involucrantes oblongæ, apice nonnihil truncatæ, nudæ, testaceæ, margine pallidiore, nitidæ, capitula juniora omninò obvolventes. Bracteæ interiores oblongo-subrhombeæ, cellulis densis pachydermatibus undeque obscuræ, cinerascentes, summo margine nudæ aut paucis pilis eburneis ornatæ. Calycis foliola lateralia carinata, quàm petala duplò latiora. Styli tres.

7. *E. quinquangulare*, Linn.; glabrum; rhizomate annuo simplici; scapis striatis setaceis, quàm folia fenestrata, lineari-acuminata duplò et quàm vaginæ triplò longioribus; capitulis tandem globosis; bracteis involucralibus paucis oblongis, nitidis, glabris, laxis, reflexis, interioribus perianthiisque olivaceo-plumbeis albo-barbatis.—*Eriocaulon quinquangulare*, Linn. Fl. Zeyl. p. 48. Willd. Sp. Pl. vol. 1. p. 485. n. 2. Röm. et Schult. Syst. Veg. vol. 2. p. 862. Burm. Flor. Ind. p. 30.—*Scabiosa graminea nudicaulis, capitulis argenteis s. Statice minima maderaspatana*, Pluk. Alm. p. 366. t. 221. f. 7.—*Randalia maderaspatana*, Petiv. Mus. n. 796 (mihi non visa).—*Leucocephala graminifolia*, Roxb. MSS.

Goori, Bengalensibus (ex Roxb.).

Planta communis in oryzetis aliisque locis cultis per omnem ferè Indiam orientalem, versus tempestatis pluviæ finem progerminans (*Roxb.*). Legerunt *König, Röttler, Roxburgh, Wight, Wallich.*—*E. trilobum* (Herb. Hamilt. ex horto bot. calc.).—*E. pellucidum*, Mich. e speciminibus americanis huic et insequenti comparari potest.

Scapi longitudine (2—10—12-pollicum) et angulorum (5—6) numero variabiles, folia semper duplò superant. Folia quàm in affinibus speciebus, *E. sexangulari* et *argenteo*, latiora, præsertim in parte inferiore. Bracteæ exteriores oblongæ, obtusæ, membranaceæ, nitidæ, flavescenti-virides, post capituli maturationem plerumque reflexæ; interiores colore multò obscuriore et longiusculè rhombeæ, cum pilis in dorso, quales in calyce quoque proveniunt. Corolla pallidior calyce, attamen nunquam alba. Antheræ cœrulescentes, siccitate nigricantes. Semina dilutè fuscidula, exactè elliptica, ad embryonis situm tamen nonnihil acutiuscula; seriebus instructa pilorum diaphanorum, detruncatorum vel quasi bifurcorum, quam in *E. Browniano* et *Wallichiano* minorum.

8. *E. sexangulare*, Linn.; glabrum; rhizomate annuo simplici; scapis setaceis, striatis quàm folia linearia, acuminata, strictiuscula vaginæque obtusiusculæ, apice albido-membranaceæ duplò triplòve longioribus; capitulis laxiusculis, globosis, glaberrimis, nitidulis; bracteis oblongis, involucralibus testaceis, interioribus perianthiisque cinerascentibus helvolisve, margine pallidiore.—*Eriocaulon sexangulare*, Linn. Flor. Zeyl. p. 49. Burm. Flor. Ind. p. 30. t. 9. f. 4. Willd. Sp. Pl. vol. 1. p. 485. n. 3. Röm. et Schult. Syst. Veg. vol. 2. p. 863.—*Eriocaulon minimum*, Lam. Enc. vol. 3. p. 275. Spreng. Syst. Veg. vol. 3. p. 776. n. 24.—*Gramen junceum Indiæ orientalis*, Pluk. Mant. p. 98.

Crescit per vastam Indiæ orientalis plagam, similibus locis cum præcedente (*Roxburgh*, *Wallich*). Legerunt præterea *cel. König* (E. quinquangulare), *Röttler* (Herb. Schreb.), *Heyne* (E. setaceum). In Tavoy, (*Gomez*, cujus exemplaria colore helvolo sunt insignia).

Variat præsertim colore et nitore capitulorum: α. capitulis cinerascentibus; β. capitulis cinereo-nigricantibus, seminibus fuscis (*E. nitidum* et *E. tenue* Hamiltoni); γ. capitulis testaceo-pallidis.

Scapi, ex Königio, nunc quinque nunc sex angulis insignes. Differt ab *E. quinquangulari* staturâ minore, teneriore, foliis brevioribus, angustioribus, strictioribus, minùs conspicuè fenestratis, capitulis minoribus, cristarum et pilorum ornamento destitutis, neque, uti in illo, plumbeis atque albo-piligeris, sed, exceptis bracteis extimis, quæ pallidè testaceæ aut helvolæ sunt, nitidulè cinereis, margine bractearum pallidiore. Bracteæ extimæ ratione totius capituli nonnihil breviores neque reflexo-patulæ; omnes, uti calycis foliola, e cellulis longiusculis conflatæ. Petala florum fœmineorum perangusta, a stylo trifido superata.

9. *E. argenteum;* glabrum; rhizomate annuo simplici, scapis sexpollicaribus sexangulis quàm folia lineari-lanceolata, acuta et vaginæ apice obtusiusculo membranaceæ subtriplò longioribus; capitulis densis, globosis, velutino-albis; bracteis mucronulatis, involucralibus nudis nitidis testaceis oblongis, interioribus rhombeis perianthiisque albo-cristatis.—*Gramen junceum Chamæmeli capitulis albis aphyllis*, Burm. Flor. Zeyl. p. 108.—*Gramen indicum capitulis tomentosis*, Herm. Mus. Zeyl. p. 17.

Crescit in oryzetis (*Heyne, Wight, Wallich*).

Species multis modis hinc *E. quinquangulari* indè *E. sexangulari* affinis, atque, uti mihi quidem videtur, a nonnullis auctoribus cum illis confusa, ratione foliorum ad scapos *E. sexangulari* propinquior, tomentosis capitulis *E. quinquangulari;* capitulorum magnitudine et scaporum firmitate utrumque, florum numero *E. sexangulare* superat. Bracteæ involucrales erectæ, firmiores quàm in *E. quinquangulari.* Flores albi, pilis opacis eburneis crebrò in superiore parte obsiti. Stylus ad basin usque trifidus. Semina oblonga, utrâque extremitate breviter acutiuscula, flavescenti-fusca, seriebus pilorum apice brevissimè bifidorum adspersa.

10. *E. Hamiltonianum;* glabrum; rhizomate simplici perenni; scapis sexpollicaribus striatis folia lineari-lanceolata acuminata plùs duplò superantibus; capitulis globosis nitidulis testaceis glabris; bracteis oblongis, involucralibus obtusiusculis, interioribus breviter mucronulatis; calycibus fœmineis vix corollis latioribus.—*E. cinereum*, Herb. Hamilt.

Crescit in Gualpara (*Hamilton*).

Flores longitudine bractearum. Calycis foliola linearia, lateralia carinata et petala, quæ vix angustiora, alba. Styli ultra dimidium trifidi. *E. sexangulari* affine.

11. *E. truncatum*, Hamilt.; glabrum; rhizomate simplici annuo; scapis striatis folia angusto-lanceolata acuminata (bipollicaria) duplò superantibus; capitulis floridis hemisphæricis nitidulis testaceis glabris; bracteis denticulatis, involucralibus oblongis, interioribus obrhombeis; perianthiis albidis; foliolis calycis fœminei linearibus quàm petala duplò latioribus.—*E. truncatum* Herb. Hamilt.

Crescit in montibus Monghir (*Hamilton*).

Planta quatuor ad sex pollices alta. Rhizoma fasciculum densum radicum fibrosarum albarum emittens. Folia duos pollices longa, e basi amplexante tres vel quatuor lineas longa sursùm angustiora, acuta, nervis longitudinalibus valdè conspicuis. Vaginæ foliis breviores, sursùm nonnihil ampliatæ, obliquè truncatæ, acutæ. Capitula juniora obconica, bracteis involucralibus perianthia superantibus et subincludentibus; florida hemisphærica. Bracteæ involucrales lineam longæ, planæ, pallidè stramineæ, nervo medio parùm conspicuo, e cellulis elongatis factæ, irregulariter, præsertim anticè, denticulatæ. Bracteæ interiores obrhombeæ, illis paulò breviores. Flores albidi. In fœmineis calycis foliola angusta, linearia, acuta, duo lateralia omni longitudine complicato-carinata, apice nonnihil denticulata; tertium acutum, in margine pilis nonnullis septatis ciliatum, solummodò sub lente composita conspicuis. Petala ferè duplò angustiora, linearia, pariter pilis parcis marginalibus, basi in pedicellum intra calycem sat longum confluentia, atque ovarium amplectentia. Florum masculorum foliola calycina lateralia lato-ovata, carinata; tertium angustius, sæpè apice bifidum. Corolla longiusculè tubæformis, virescens, in lacinias divisa tres parvulas apice cristâ pilorum septatorum munitas. Stamina cum corollæ sinu confluentia. Antheræ subglobosæ, bilobæ, nigricantes.

12. *E. setaceum*, Linn.; caule (perenni?) ramoso, (fluitante?) infernè radiculoso, supernè foliis subulatis laxis patulis; pedunculis terminalibus umbellatis striatis vaginas obtusas duplò et ultrà superantibus; capitulis globosis cinerascentibus glabris; bracteis involucralibus lato-ovatis rotundatis, interioribus spathulato-rhombeis.—*Eriocaulon setaceum*, Linn. Fl. Zeyl. p. 50. Willd. Sp. Pl. vol. 1. p. 50. Röm. et Schult. Syst. Veg. vol. 2. p. 863. n. 8.—*Tsieru-Kotsitelleti pullu*, Rheed. Hort. Mal. vol. 12. p. 129. t. 68.—*Randalia malabarica, capillaceo folio*, Petiv. Gazoph. t. 33. f. 10.

Crescit in Ceylona (*Thunberg* in herb. Schreberi); in Tavoy *Gomez.*

Bracteæ involucrales pallidè virescenti-testaceæ, margine extenuato albidæ; interiores centro cinerascentes. Calyx cinerascens. Petala albida, apice albo-pilosa. Caulis sæpè pedalis. Folia pollicaria. Pedunculi digitales.

13. *E. sericans;* rhizomate annuo; scapis (spithamæis) septangulis pilosis, folia linearia acuminata glabra vaginasque ad medium apertas pilosulas quadruplò superantibus; capitulis hemisphæricis; bracteis involucralibus testaceis ellipticis, interioribus subrhombeis acutis perianthiisque albis et supernè dense albo-barbatis.

Crescit in Tavoy (*W. Gomez*).

14. *E. gracile;* rhizomate annuo; scapis (spithamæis) quinquangulis setaceis, folia angusto-lanceolata acuminata multoties (7—10) superantibus, foliisque fenestratis vaginisque duplò longioribus obliquè apertis glabris; capitulis subglobosis albo-pulverulento-barbatis; bracteis involucralibus oblongis, interioribus subrhombeis, calycibus cinerascentibus, corollis albis.

Crescit in montibus Prome, ad ripas fl. Irawaddi (*Wallich* 1827).

15. *E. melaleucum;* rhizomate annuo; scapo (tri-quadripollicari) striato, folia angusto-linearia acuta fenestrata vaginasque transversè truncatas duplò superante; capitulis subglobosis; bracteis oblongis nigricantibus, perianthiis nigricantibus supernè pilis eburneis barbatis.—*E. quinquangulare* Herb. Heyn.

Crescit in Coromandel (*Heyne*).

Folia radicalia rosulata, pollicem longa, vix lineam lata, tenera, subtiliter fenestrata. Vagina teres, ore nonnihil ampliato et scarioso-membranaceo transversè truncata, foliis paulò brevior. Scapus e quavis rosula foliorum solitarius, 3- 4- 5-pollicaris, uti tota planta, exceptis perianthiis, glaber. Bracteæ oblongæ, lineâ paulò longiores, nigricantes, margine passim inciso-laceræ, teneræ, uti perianthia nigricantes. Masculorum calyx constat foliolis oblongis acutis; corolla angusto-tubæformis, laciniis triangularibus. Cilia eburnea, opaca, nitentia. Stamina sena: longiora laciniis opposita. Antheræ subglobosæ, flavescentes, tandem nigricantes. Fœmineorum calyx uti in masculis. Petala oblanceolata, albida, ciliata. Ovarium oblongum. Stylus tripartitus. Semina elliptica, nitidè lutescenti-fuscidula, pilis seriatis. Huic affine in systemate ponendum est *E. septangulare*, quod foliis latioribus et scapis longioribus præsertim dignoscitur.

16. *E. Xeranthemum;* rhizomate annuo; scapis (bipollicaribus) striatis folia angusto-lanceolata acuminata vaginasque glabras duplò superantibus; bracteis involucralibus scariosis nitidis apiculatis serrulatis capitula hemisphærica duplò superantibus, interioribus nudis, perianthiis vertice subtiliter pilosis; receptaculo nudo.

Crescit in Napalia (*N. Wallich* 1821); in Tavoy (*W. Gomez*).

Plantula elegans. Rhizoma nonnihil elongatum, anne forsan bienne aut perenne? ubique radiculosum. Folia pollice paulò longiora, vaginas laxas amplas nonnihil superantia. Bracteæ involucrales sesquilineam longæ, albæ aut ex albo pallidæ, angusto-oblongæ apiculatæ, anticè irregulariter serrulatæ, serraturis incumbentibus, juniora capitula omninò obvolventes. Flosculi vix dimidiam lineam alti, bracteis obovato-oblongis suffulti, quæ parùm obscuriores et subintegerrimæ. Calycis foliola lateralia carinata, apice parcè pilis subpellucidis adspersa, petalis duplò latiora, quæ ad medium usque penicillato-pilosa. Stylus trifidus. Semina cylindrica, seriebus pilorum emarginatorum instructa, uti in reliquis speciebus, pallidè virescentia, basi obscura.—Receptaculi nudi notam adjecimus, quòd eâ atque foliorum formâ a specie quadam brasiliensi dignoscatur, quam *E. Xeractiden* vocamus.

17. *E. echinulatum;* digitale, glabrum; rhizomate annuo, scapis quadrangulis folia angusto-linearia acuminata triplò-quadruplò superantibus; capitulis globosis per bracteas subrhombeas longè mucronatas rigidulas echinulatis, pallidis.

Crescit in Tavoy (*W. Gomez*).

Bracteæ semilineam longæ, firmulæ, siccæ, mucrone totius longitudinis dimidium æquante. Flosculi minimi; masculis foliola calycis lateralia carinata, carinâ sat prominulâ; corolla tubæformis, laciniis cum staminibus brevioribus alternantibus. Antheræ globosæ, nigricantes. Flores fœminei virescentes, stipati pilis septatis. Calycis foliola lateralia obliquè carinata elongato-rhombea. Ovarium longè pedicellatum. Stylus tripartitus.

XYRIS, Linn. Gen. 64.

Gærtn. Carpol. vol. I. p. 52. Brown Prodr. Flor. Nov. Holl.
vol. I. p. 255.

Character essentialis. Bracteæ scariosæ in capitulum imbricatæ terminale; singulæ unifloræ, infimæ sæpè vacuæ. Calyx triphyllus (▽), foliolis glumaceis, posticis carinato-amplectentibus persistentibus, antico teneriore calyptriformi deciduo. Petala tria, longè unguiculata, unguium apice staminifera. Antheræ posticæ, bilocellares. Stamina tria sterilia, penicillata. Stylus trifidus. Stigmata obtusa. Capsula (▽) unilocularis, trivalvis, valvulis mediò seminiferis. Semina plurima, oblonga.—Herbæ, foliis equitantibus, linearibus. Scapus basi vaginatus, angulatus aut compressus. Bracteæ cupreæ aut fuscæ, aridæ. Petala flava. (*Xyrideæ* præ aliis *Irideis* affines.)

1. *X. pauciflora*, Willd.; scapo tetragono scabriusculo (1—5-unciali), foliis linearibus margine denticulato-scabris, capitulo paucifloro subgloboso, bracteis subrotundis (dorso discoloribus). Br. Prodr. Flor. Nov. Holl. vol. 1. p. 256. n. 7.—*Xyris pauciflora*, Willd. Phytogr. vol. 1. p. 2. t. 1. f. 1. Vahl. Enum. vol. 2. p. 207. Spreng. Syst. Veg. vol. 1. p. 182. n. 5.

Crescit in ora Coromandeliæ (*Heyne*).

Crescit in omni ferè Indiæ orientalis continenti: in Napalia (*Wallich*); Tavoy (*W. Gomez*); Coromandelia (*Heyne*); Sillet (*Bruce* et *De Silva*); Madras (*Wight*).

2. *X. schœnoides;* scapis angulatis (sesquipedalibus), folia linearia acuta margine lævia duplò triplòve superantibus; capitulo ovali paucifloro, bracteis ellipticis dorso concoloribus, præter apicem emarginatam integerrimis.

Crescit in Napalia (*Wallich*).

3. *X. lappacea*, Heyne; scapis tereti-angulatis (ultrapedalibus), folia linearia acuta nervis septem crassis lineata (4—5 lineas lata) parùm superantibus; capitulis paucifloris globosis, bracteis oblongis dorso concoloribus apice breviter mucronato asperis.—*X. lappacea* Herb. Heyn.

4. *X. indica*, Linn.; scapis tereti-angulatis (sesquipedalibus) folia linearia acuminata laxiuscula margine pallidiore lævia subduplò superantibus, capitulis ovatis vel cylindricis multifloris bracteis suborbicularibus dorso concoloribus, apice subemarginatis margineque tenuioribus tandem passim denticulatis.—*Xyris indica*, Linn. Flor. Zeyl. p. 14. Vahl. Enum. vol. 2. p. 204, cum synon.

In India orientali variis locis: Tranquebaria (*Röttler, König, Heyne*); Madras (*Wight*); Tavoy (*W. Gomez*).

5. *X. robusta;* scapis tereti-angulatis (bipedalibus) folia linearia acuminata firmula multinervia, margine integerrima superantibus; capitulis ovatis vel oblongis multifloris obliquè pentastichis; bracteis oblongis duris dorso concoloribus acutis margine extenuato passim denticulatis.

Crescit in Sillet (*De Silva*).

LAURINEARUM INDIÆ ORIENTALIS SUPPLEMENTUM (Ad Vol. 2. p. 58, seqq.)

Scripsit C. G. Nees ab Esenbeck, *Prof. Vratisl. Acad. Cæsar. Leopold. Carol. Nat. Cur. Præses.*

VI. Tetradenia.

p. 64. 2. *Tetradenia umbrosa.* ♀. *Laurus recurvata*, Roxb.? Wall. Cat. n. 2564 B. Ex hort. b. Calc.

—— 4. *T. zeylanica. Dais* et *Tomex trinervia*, Herb. Madr. Wall. Cat. n. 2567 D. Ex horto Missionis Tranquebariæ. Wight. Herb. propr.*

VII. Tetranthera.

p. 65. 2. *Tetranthera angustifolia.* Deleatur hæc species inter *Tetrantheras*, est enim *Actinodaphnes* generis.

—— 5. *T. Roxburghii.* Diagnosi adde: "foliis glabris aut pubescentibus." Var. α. Wall. Cat. n. 2554. K. ♂ et ♀. E Sillet, Guil. Gomez, 1830. Var. β. ♂. Wall. numero citato L. Ex hort. b. Calc. Var. β. ♀. Wall. n. c. M. Herb. Finlays.

Var. β *racemoso-umbellata*, pedunculo communi magìs elongato, inferiora versùs racemoso, apice umbellato, foliis puberulis, basi evidentiùs angustatis. *Litsæa chinensis*, Hort. b. Calc. Wall. n. c. N. ♀.

Var. δ *canescens*, foliis vel ovatis vel obovatis vel ellipticis oblongisve obtusis, junioribus utrinque adultioribus subtùs pubescenti-tomentosis, umbellulis umbellatis, pedunculo communi propriis pedunculis vel longiore vel breviore: *longiore*, Wall. Cat. n. c. O; Ava, Octobre 1826, ♂; et P; Moalmyne in ora Martabaniæ, 1827, ♂;—*breviore*, Wall. Cat. n. c. O; Segain, Novembre 1826, ♂.

Adnot. A varietatibus α et β hæc solâ pubescentiâ, quâ induta canescit, distinguitur. In floribus masculis sæpius loco staminum exterioris ordinis laciniæ tres lineari-subulatæ substituuntur.

p. 66. 6. *T. laurifolia* Jacq. Adde: Var. β foliis majoribus apicem versus magìs attenuatis proptereaque minùs cuneatis, suprà non omninò opacis, umbellularum pedunculis longioribus, communi pedunculo proprios plùs duplò excedente.—♂. ♀. Herb. Wight. propr.

Adnot. Nisi florum structura omninò eadem esset atque in reliquis *Tetrantheræ laurifoliæ* exemplis, hanc formam intermediam diceres intrare inter *Tetrantheras Roxburghii* et *laurifoliam* Jacq.

p. 66. 8. *T. monopetala* Roxb. Var. α. ♂. Wall. Cat. n. 2549 H. Ad Attran fluvii ripas, Majo 1826. Var. β. ♂. ♀. Wall. n. c. I. Moalmyne et Amherst, nondum florens, Februario 1827. Var. γ. Wall. Cat. n. 2549 K; e Sillet, Guil. Gomez. Var. ε *grandifolia.* Folium unum 1¼ ped. longum, 8 pollices latum. Wall. n. c. L. Chappedong oræ Tenasserim, 1827.

—— 10. *T. attenuata.* Var. α. Wall. Cat. n. 2534 B. Ex hort. b. Calc. e Sillet. Inter varietates α et β omninò intermedia. Wall. n. c. C. e montibus Sillet contiguis, Guil. Gomez. Ibid. D. Ex hort. b. Calc. ubi e Sillet est introducta.

p. 67. post *Tetrantheram salignam*, n. 12. inseratur:

12 b. *T. angusta* Wall.; perianthio sexfido, umbellulis axillaribus subsolitariis, foliis oblongo-lanceolatis acuminatis subtùs pubescenti-scabris, ramis strigiloso-tomentosis, filamentis scabris.—*T. angusta* Wall. Cat. n. 6344, ♂. β foliis subtùs (in sicco) ferrugineis, densiùs pubescentibus. Wall. n. c. B. ♂.

E Tavoy, Septembre 1827, Guil. Gomez. Var. β ad Syrian in Pegu, haud procul a Rangoon, Augusto 1828. A *T. saligna* foliis latioribus, subtùs densè pubescenti-scabris, filamentis scabris nec villosis, ramis pubescentiâ strigilosâ subtomentosis benè distinguitur.

Quæ isti sanè multò magìs accedit *T.* (*Litsæa*) *lucida*, Blume Bydr. p. 562, evidentissimè differt: ramis, nisi ad extremum apicem, glabris, foliorum costis e nervo medio prodeuntibus paucioribus, scil. 5—6, qui in nostra 10—12, umbellulis denique in singulo fasciculo axillari plurimis, quæ nostræ vel singulæ, vel geminæ ad summum tributæ.

T. (*Litsææ*) *amaræ* Bl. l. c. folia acuta sunt neque acuminata, basi obtusâ neque acutâ, et umbellulæ brevissimè pedunculatæ, pedunculo communi ipsius umbellæ altitudine, qui in nostra umbellâ duplò triplòve longior.—Cæterùm pubescentia et nervatio foliorum in *T. amara* Bl. magìs ad *T. angustæ* similitudinem accedunt; at verò costarum numerus rarò ad 12 reductus, frequentiùs ad 14—18 extenditur.

—— 14. *T. chartacea* Wall. Adde: ? Wall. Cat. n. 2531 B. Amherst, Februario 1827, cum fructu ferè maturo.

Ramus est arboris femineæ, quod ad folia simillimus, sed hisce tamen a reliquis discedit: cortex est glaber; folia, aliquantò majora, ex oblongis in elliptica transeunt, acumine tum verò minùs producto; pedunculi communes 2—3, axillares, aggregati, 2—2½ lineas longi, crassiusculi, glabri. Fructus in singulo 1—2 residui. Pedicelli fructûs lineam longi, obconico-cylindrici, angulati, crassissimi, fructum quem dicunt inferum mentientes, glabri. Calycis limbus persistens, patens, laciniis ovalibus obtusis membranaceis glabris. Staminum aliquot series satìs completæ, cum limbo expansæ, restant. Filamenta horum glabra; antheræ imperfectæ. Bacca, pisi magnitudine, globosa; structura fructûs interna nihil ostendit peculiare, nisi quod chalaza amplissima quasi auro polito niteat. In umbellulæ unius gemmula, quæ libera exemplo adjecta erat (nescio an consultò), nihil explicari potuit, nisi involucrum hexaphyllum, foliolis orbiculatis; flores enim vix apparebant.

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* Hoc modo citabimus plantas Herbarii Wightiani, ab ipso Wightio, viro clarissimo, mihi datas.—*N. ab E.*

Species videtur distincta, sed ea hoc tempore non potest confirmari, donec perfectiora exempla inveniantur.

p. 67. 17. *T. myristicæfolia,* Wall. Cat. n. 2548 B. Tavoy, Octobre 1827, Guil. Gomez. Ramus sterilis. ♂. Var. foliis brevioribus obovato-ellipticis, subtùs minùs glaucescentibus. Wall. Cat. n. c. C. e Tavoy, ab eodem.

—— 18. *T. nitida* Roxb. Wall. Cat. n. 2540 C. Rangoon, Augusto 1826. ♂.

—— ante *T. glabratam,* sub eadem divisione specierum umbellulis racemosis gaudentium, inseratur:

19. a. *T. semecarpifolia* Wall.; perianthio sexfido, umbellulis axillaribus racemosis, racemis paucifloris, foliis obovatis obtusis subtùs pubescentibus, filamentis hirsutis.—*T. semecarpifolia,* Wall. Cat. n. 6345.

In Avæ montibus Taong Dong dictis, 1826. ♂. Donabue in ripa Irawaddi fl. Foliorum formâ inter species hujus divisionis jam e longinquò dignoscitur. Femina latet.

VIII. CYLICODAPHNE.

p. 68. 1. *Cylicodaphne Wightiana.* ♂ et ♀ in Herb. Wight. propr.

IX. ACTINODAPHNE.

—— Generis character ita rescribendus:

Flores dioeci, e gemma imbricata paniculati, racemosi vel fasciculati, sub singula squama singuli. Perianthium sexfidum laciniis æqualibus, vel lacero-persistentibus vel juxta basin deciduis. Stamina antherigera novem perfecta, triplici serie disposita, quorum tria interiora staminodiis geminis sessilibus stipata. Antheræ oblongæ, quadrilocellatæ, omnes introrsùm dehiscentes valvulis sursùm reflexis conformibus. Pistilli in masculo flore rudimentum. Bacca calycis tubo cyathiformi, aut laciniarum residuis appendiculato, aut sexlobo imposita.—Inflorescentia vel panicula, vel racemulus, vel, ubi axis maximè contrahitur, fasciculus, simplex aut compositus, ante anthesin squamis gemmæ axillaris involuta. Folia verticillata, penninervia. Gemmæ foliiparæ imbricatæ, squamis pluribus chartaceis.

—— 1. *A. pruinosa;* foliis subtùs pruinosis, floribus paniculatis (♂) vel racemosis (♀).—*A. pruinosa* N. ab. E. Synops. Laurin. in Wall. Pl. Rar. vol. 2. p. 68.

—— 2. *A. concolor;* foliis concoloribus, floribus simpliciter fasciculatis.—Wall. Cat. n. 6346.

Crescit in Tavoy; lecta die 2. Augusti 1827, primos flores evolvens, a Guil. Gomez. ♂.

Differt ab *A. pruinosa:* foliis concoloribus minùs acuminatis plerumque ternis, quæ illi quaterna aut sena, tum floribus in parvos fasciculos, quasi glomerulos, collectis, nec paniculatis aut racemosis. A sequente recedit: foliis ternis concoloribus minoribusque et magìs glabris, tum fasciculis simplicibus nec compositis. Plura forsitan, cum planta feminea et fructus inveniuntur, ad notas istas distinctivas accedent.

p. 68. 3. *A. angustifolia;* foliis subtùs glaucis costis ferrugineis, florum fasciculis compósitis, (perianthio fructûs lobato.) —*Tetranthera angustifolia* N. ab E. Synops. p. 65. n. 2.

Adnot. Cognito jam fructu, et structurâ partium accuratiùs ponderatâ, hujus esse generis intellexi. Conjunctio intima patet comparatâ *Actinodaphnes concoloris* inflorescentiâ; scilicet loco pedicellorum simplicium, quos in *Actinodaphne concolore* videmus, in *angustifolia* nascitur fasciculus ramorum, quales eos in *A. pruinosa* mare conspicis ad basin paniculæ. Hi ramuli, sive pedunculi, squamarum generalium defluxu mox denudantur. Singuli autem fasciculi apice solvuntur in fasciculum sive umbellulam quinquefloram, squamis involucralibus quatuor decussatis, fugacibus ante anthesin involutam. Tota autem, quæ umbellula videbatur, evidenter ortum ducit e *rami paniculæ quinqueflori contractione,* quâ fit, ut florum oppositorum juga duo cum terminali flore ex eodem ferè puncto prodire cogantur. Involucri foliola duo exteriora primo florum oppositorum pari propria sunt, duo interiora secundo. Flos intermedius non eidem puncto medio, ac par florum antecedens, sed paulò altiùs, pedunculi communis apici *articulo* conjunctus est.—Pedicellorum etiam longitudo, florum amplitudo, reliqua ut taceam, conferunt ad probandam sententiam, qua motus *Tetrantheram* genus hac cive inimicâ denique liberavi.

Var. *β. latior.* ♂. Wall. Cat. n. 2559 D. ♀. In Tavoy oræ Tenasserim 1827 legit Guil. Gomez marem. Feminam, modò defloratam, ad Syrian in Pegu 1826, cum fructu maturo autem in Moalmyne exeunte Januario 1827 invenit Wallichius.

Exempla hæc docent:

1°. Masculinam plantam, cujus in Synopsi, l. c., ut dubiæ mentionem feci, omninò ejusdem esse speciei ac femineam. 2°. Foliorum tam amplitudinem quàm formam usque adeò in his ludere, ut magìs magìsque confirmetur sententia, *Litsæam glomeratam* et *macrophyllam* Blumii ejusdem esse speciei formas. 3°. Restat tamen id differentiæ, præsertim inter *Litsæam glomeratam* Bl. et nostram *angustifoliam,* quod illi pleraque folia, eoque magìs, quo majora existunt, cuneata, apicem versus latiora et ab apice rotundato in acumen brevius contracta sunt; nostræ contra non nisi pauca ejusmodi atque juvenilia ea et minora; plurima autem circa latera magìs arcuatim curvantur, in medio, vel paulò citrà, latiora; sed hæc quoque in aliis aliter comparata.

Folia in eodem ramo invenimus alia 5—5½ pollices longa vix unum pollicem lata, et 8—9 pollices longa, 3 pollices lata, lanceolata, oblonga, elliptica, tum superiora nonnulla 3 pollices longa, 1¼—1½ pollices lata, obovato-elliptica.—Flores masculini femineis duplò majores sunt, laciniis latioribus præditi. Fructus agglomerati. Pedicelli fructûs duas lineas longi, crassiusculi, strigulosi. Calyx fructifer pateriformis, rugulosus, sexlobus, nonnihil undulatus et hinc indè lacerus, rigidus, intùs strigoso-hirtus, duarum linearum diametro. Bacca pisi magnitudine, læviuscula; coloris nigri?

XI. GYROCARPUS Jacq.

—— 1. *Gyrocarpus asiaticus.* Herb. Wight. propr.

XII. CASSYTA Linn.

p. 69. 1. *Cassyta filiformis.* Var. *β.* Herb. Wight. propr.

XVI. MACHILUS Rumph.

p. 70. 2. *Machilus macranthus.* Wall. Cat. n. 2587 B. Herb. Wight. e jugo Nilghiry dicto. Ramus absque floribus.

Adnot. Folia alia obtusa sunt, alia in cuspidem brevem obtusamque producta.

XVII. OCOTEA Aubl.

p. 71. 1. *Ocotea sericea.* Ad hanc speciem pertinere videtur ramus cum foliis absque floribus, Wall. Cat. n. 2606 C. Ex Ava, Octobre 1826. Folia et reliqua conveniunt, sed deest omnis pubescentia, quæ fortè in foliis vetustioribus evanescit.

—— 2. *O. glaucescens.*—Herb. Wight. propr.

—— 5. *O. pubescens.*—Wall. Cat. n. 2595 C. Amherst, medio Februario deflorata; C. Tavoy G. Gomez, Octobre 1827, inchoante anthesi.

—— 8. *O. ligustrina.*—Wall. Cat. n. 2588 B. Tavoy, Decembre 1827 cum floribus, Gul. Gomez.

Adnot. Pubescentia foliorum adultiorum subtilissima, neonatorum vix ulla.

XVIII. ALSEODAPHNE N. ab E.

p. 72. Deleatur *Alseodaphne grandis;* est enim hæc Perseæ generis. Eâdem paginâ, ante *Camphoram* inseratur:

XVIII b. PERSEA Gærtn.

Flores hermaphroditi, paniculati, nudi. Perianthium sexpartitum, chartaceum, ad thorum usque deciduum, inæquale. Stamina fertilia novem triplici serie, quorum tria interiora staminodiis binis capitatis ad basin stipata; filamentis filiformibus villosis. Antheræ oblongæ, quadrilocellatæ, valvulis totidem adscendentibus dehiscentes, locellis inæqualibus, exteriorum omnium anticis, trium interiorum posticis. Staminodia tria stipitata capitulo sagittato in serie magìs interiore, dorso eglandulosa. Stigma dilatatum. Bacca monosperma, pedicello nudo incrassato truncatoque insidens.—Inflorescentia: paniculæ, e squamarum gemmæ axillaris vel terminalis axillis subcorymbosa; ramulis subumbellifloris bracteolis minutis inspersis. Gemmæ foliiparæ bivalves, compressæ. Folia costato-penninervia.

Adnot. Persea genus differt a *Machilo* et *Alseodaphne* calyce ad fundum hypogynum usque defluente, quo evenit, ut fructus nudo pedicelli apici incrassato truncatoque inhærere videatur.

—— 1. *Persea gratissima* Gærtn.; foliis ovatis aut ovato-oblongis subtùs reticulatis pubescentibus glaucisque, baccâ pyriformi grandi.—*P. gratissima* Gærtn. fil. De Fruct. et Sem. vol. 3. p. 222. Humb. et Bonpl. Nov. Gen. et Sp. vol. 2. p. 158. Kunth Synops. vol. 1. p. 453. n. 2. Blume Bydr. p. 567. Spr. Syst. Veg. vol. 2. p. 268. n. 11. —*P. americana* C. B. P. p. 44.—*Laurus Persea* Jacq. Obs. fasc. 1. p. 37. Willd. Sp. Pl. vol. 2. p. 480. n. 13. (ubi reliqua veterum synonyma.)

Patria est America tropica. Colitur in Indiæ orientalis hortis. Vidi exempl. ex hort. b. Calc. Wall. Cat. n. 6348.

—— 2. *P. grandis;* foliis cuneiformibus glabris subtùs glaucis, baccâ ovatâ.—*Alseodaphne grandis* N. ab E. Synops. p. 72. n. 2. Wall. Cat. n. 2594 C. Ex Amherst Februario 1827; D. Tavoy, Decembre 1827, c. fructu lecta a Guil. Gomez.

Adnot. Pedunculi communes fructûs 3—4 pollices longi, incurvi, rigiduli, glabri, noduloso-asperi; paniculâ parvâ trifidâ ramis brevibus bifidis terminati. Pedicelli fructuum crassi, rugosi, a basi tumentes, obconico-cylindrici, recenti statu probabiliter succulenti et carnosuli. Perianthii sola basis seu discus hypogynus orbiculatus residuus est. Bacca magnitudine nucis avellanæ, ovata aut oblongo-ovata, mucronulata, nigra, carne tenui. Seminis dissectio nihil proprii exhibuit.

XIX. CAMPHORA.

p. 72. post *Camphoram officinarum* inseratur:

1 b. *Camphora inuncta;* foliis elliptico-oblongis venosis subtriplinerviis concoloribus, suprà lucidissimis, axillis venarum glandulosis, paniculis axillaribus terminalibusque paucifloris.—Wall. Cat. n. 6347. In Tavoy legit Guil. Gomez, Octobre 1827.

Adnot. Differt a *C. officinarum* petiolis brevioribus, foliis magìs oblongis basì minùs acutatis in utraque superficie veluti vernice collinitis et concoloribus, neque tam evidenter triplinerviis; sed dubia tamen remanent, anne sit communis *Camphoræ* varietas.

XX. CINNAMOMUM Burm.

p. 73. 2. *Cinnamomum Bazania.* Var. *β parvifolium.*—Herb. Wight. propr.

Cel. Wightii benevolentiæ debeo exemplum hujus speciei, ramorum et petiolorum structurâ singulari, colore fusco epidermidis, tum corticis odore et sapore eximiè cum reliquis ejusdem speciei exemplis congruum, sed diversum: foliis minoribus, $3\frac{1}{4}$—$3\frac{1}{2}$ pollices longis $1\frac{1}{2}$—$1\frac{3}{4}$ poll. latis, ovatis obtusis, aliis minoribus etiam intercurrentibus. Non minùs autem hæc rigida sunt, obsoletè venosa, altè triplinervia, accedente in aliis pari nervulorum magìs inferiori. Pedunculi fructûs in hoc exemplo petiolo vix duplò longiores sunt, bis bifidi fuisse videbantur, nunc autem unâ solâ cupulâ obconicâ detruncatâque et rigidâ præditi. Laciniæ calycis, ut in *C. inerti* eroso-dissolutæ, jam maximam partem penitùs ceciderunt.

Adnot. Exemplum illud Herbarii Wightiani, cujus in adnotatione 3 Synopseos Laurinarum (Pl. As. Rar. vol. 2. p. 74) sub *C. zeylanico* mentionem feci, ut nunc video *C. Bazaniæ* surculus est luxurians; quæ fortè causa est, ut anguli minùs promineant, ac in reliquis.

—— 3. *C. iners.* Wall. Cat. n. 2588 E. Moalmyne et ad ripas Attran fluvii Aprili 1827, primos ostendens flores; Chappedong, 1827.—Herb. Wight. propr. c. fructu maturo.

Adnot. Laciniæ calycis fructiferi primùm infra apicem suturâ dissolvuntur; ad tempus maturitatis denique a tubo, accedente veluti alterâ suturâ, cadunt, quo facto cupula truncata relinquitur. Sed restant tamen semper in aliis fructibus laciniarum ruinæ dentesque irregulares ac laceros exhibent. Fructus est parvus et ovalis.

p. 74. 7. *C. zeylanicum.* Var. *α.* Wall. Cat. n. 2573 G. Hort. b. Calc. Var. *β.* H. ex Herb. Finlayson. Var. (? *β* 2.) Herb. Wight propr. (cum sequente). Var. *γ.* Herb. Wight. propr. c. fructu semiadulto.

Adnot. Calyces hujus varietatis in fructu immaturo ventricosi, ferè urceolati, parte superiore laciniarum adhuc superstitâ, sed ad cadendum paratâ. Ovarium hoc in statu subglobosum, latens. Odor et sapor horum fructuum Cinnamomi cum caryophyllino mixti. Pones derasâ a messoribus calycis parte extremâ adpressoque dein fructûs vertice duro alicui planoque corpori decerptos calyces leni calore exsiccari, et non omninò improbabile videbitur, *Flores Cassiæ* officinarum ab hac arbore proficisci.

—— 8. *C. sulphuratum.* Var. *β oblongifolium:* foliis angustioribus oblongis, pubescentiâ ramulorum et petiolorum e flavo canescente.—*Cinnamomum javanicum,* Blume Bydr. p. 570. Wall. Cat. n. 2583 F.

Lecta est hæc var. *β* in Tavoy, Decembre 1827, a Guil. Gomez, cum floribus.

p. 75. 10. *C. albiflorum.*—Varietas inflorescentiâ laxiore flavescenti-sericeâ. Wall. Cat. 2569 G. E Tavoy, Octobre 1827, Guil. Gomez.

RUELLIA MACULATA. Tab. 250.

Fruticosa; foliis oblongo-lanceolatis, caudato-acuminatis, denticulatis, utrinque valdè attenuatis, alternis parium longè petiolatis, adpressè pilosulis, suprà maculatis, floralibus lanceolatis, subsessilibus, integerrimis; floribus laxè spicatis, vel paniculatis; corollæ lobis æqualibus, rotundato-obtusis.

Crescit in montibus Sillet confinibus, undè in Hortum Calcuttensem misit M. R. Smith anno 1816. Floret tempore humido, mense Julii.

Frutex parvus, erectus, glabriusculus, caule cylindrico, angulis obsoletissimis notato, tumidè articulato, ramis gracilibus, adscendentibus. **Folia** longè petiolata, patentissima, interstitia valdè superantia, oblongo-lanceolata, denticulata, caudato-acuminata, utrinque valdè attenuata, præcipuè basi, ubi integerrima, 3—5-pollicaria, in jugo paullò magnitudine inæqualia, levitèr adpressè pilosula, disco, suprà secus costæ tractum, maculis majusculis albidis, irregulariter subrhombeis, dentatis, inter nervos solitariis ornato, subtùs pallida, obliquè nervosa; *floralia* parvula, lanceolata, sessilia, integerrima. **Petioli** gracillimi, bipollicares, sensìm in basin foliorum dilatati, alterni dimidiò breviores. **Flores** cœrulei, brevè pedicellati, laxè dispositi in spicas axillares terminalesque simplices, brevè pedunculatas, bipollicares, erectas, suffultas pari foliorum floralium. **Bracteæ** oppositæ, cuneatæ, semiunguiculares, puberulæ. **Calycis** *laciniæ* lineares, obtusæ, pubescentes. **Corolla** infundibuliformis; *tubus* pallidus, pollicaris, ampliatus in *limbum* patentem, triplò breviorem, divisum in lobos 5 rotundatos, obtusos. **Antheræ** in fauce. **Stylus** elongatus, purpurascens.

I have only seen this elegant plant once in flower, in 1816, in the Botanic Garden at Calcutta, where it was introduced from the mountains bordering on the district of Sillet, by the late Mr. M. R. Smith. It is possible that it may be the same species as my *Ruellia urophylla*, number 2344 of my Catalogue of the Herbariums of the Honourable East India Company; a point which will be decided in the Synopsis of the family of *Acanthaceæ*, from the able pen of Professor Nees Von Esenbeck, which will be found towards the end of the present volume.

Plate CCL. Fig. 1. Flower. 2. Calyx. 3. Corolla, opened.

OSBECKIA ANGUSTIFOLIA. Tab. 251.

Osbeckia angustifolia, Don Prodr. Floræ Napal. p. 221. Decand. Prodr. Syst. Nat. vol. 3. p. 142.

Osbeckia ciliata et *tenuis* Herb. Hamilt.

Crescit in Napalia utraque, florens Octobre, fructifera Novembre. In montibus Kamoun (Robertus Blinkworth). In Gualpara (*Osbeckia ciliata* Hamilt.), et in Nathpur (*O. tenuis* Hamilt.), florens Septembre (Herb. Hamilton).

Fruticulus 2—3-pedalis, erectus, subdecussato-ramosus, hispidus setis patentiusculis, sparsis. **Caulis ramique** simplices graciles, tetragoni, secus angulos setosi. **Folia** patentia, interstitia æquantia, inferiora iisdem breviora, lanceolata, subsessilia, attenuato-acuta, basi rotundata, bi-tripollicaria, trinervia, utrinque setoso-hispida, siccitate uti tota planta flavicantia. **Petioli** vix ultra lineam longi. **Flores** purpurei, ratione staturæ plantæ magni et speciosi, sessiles, octo circitèr dispositi in glomerulum terminalem, solitarium, suffultum paribus aliquot approximatis foliorum subverticillato-involucrantium, pollicarium. **Calyx** brevis, tubulosus, hispidus, stipatus *bracteis* ovatis, acutis, ciliato-setosis, divisus in *lacinias* 4 lanceolatas, acutas. **Petala** subrotunda, cuspidulata, $\frac{2}{3}$-pollicaria, patentissima. **Antheræ** in rostrum longum desinentes. **Stylus** clavatus. **Capsula** ovata, truncata, glabra, ferruginea, magnitudine pisi.

Plate CCLI. Fig. 1. Flower. 2. The same, opened.

GENTIANA CHIRATA. Tab. 252.

Glaberrima; floribus paniculatis; corollæ quadrifidæ, rotatæ laciniis ovatis, calycinas lanceolatas subæquantibus; foliis lanceolatis, attenuato-acuminatis, basi rotundatâ amplexantibus.

Gentiana Chirayta, Roxb. MSS. Fleming in Asiat. Research. vol. 11. p. 167. Schult. Syst. Veg. vol. 6. p. 142. Spreng. Syst. Veg. vol. 1. p. 859.

Swertia Chirata Hamilt. Cat. Herb. in Museo Ampliss. Procur. Britann. Ind. Oriental. asservati.

Nomen Sanscritanum, *Chirāta* s. *Chirātatikta*. Beng. et Hindust., *Chireta* s. *Chirayta*.

Crescit in alpibus Himalayæ inferioris, Napalensis et Kamounensis, vigens fructificansque sub pluviis. Ipse inveni ad cacumen montis Sheopore in Napalia. In Napalia, Herb. Hamilt. In Anga, Carnata, Napalia et Camrupa, Ejusd. Catal.

Herba erecta, a basi usque paniculato-ramosa et decussata, 2- 3- quin 4-pedalis, omnibus partibus glabra, sapore intensè amaro. Radix lignosa, perennis, ramosa et fibrillosa. Caulis cylindricus, pennam cygneam ad digitum minimum crassus, pallidè ferrugineus, vel cinerascens. Rami oppositi, inferiores crassi, cylindrici, superiores acutè tetragoni, graciles, subsimplices. Folia opposita, erecto-patentia, sessilia, lanceolata, attenuato-acuta, integerrima, in juniore planta aliquandò obsoletè crenulata, basi rotundato-obtusâ amplexantia, utrinque glaberrima, saturatè viridia, suprà nitidula, subtùs 5-nervia, nervis intermediis ad apicem usque excurrentibus, extimis utrinque abbreviatis, 2—3-pollicaria; *inferiora* remota, *superiora* approximatiora, magìs attenuata, subacuminata; *floralia* angustiora, semipollicaria. Flores parvi, lutei, patentissimi, glabri, inodori, pedicellati, per totam ferè ramorum et ramulorum longitudinem, ex axillis foliorum floralium in fasciculis oppositis remotiusculis, bis trifidis, vel subracemulosis collecti, paniculam exhibentes amplam, patentem, pyramidato-decussatam, attenuatam. Pedunculi Pedicellique breves et teneri, tetragoni. Bracteæ parvæ, oppositæ, lineares, inferiores sensìm in folia floralia abientia. Calyx patentissimus, partitus in *lacinias* 4 lanceolatas, acutas. Corolla rotata, nuda, calyce vix longior; *laciniæ* planæ, ovatæ, acutæ. Stamina 4, patentiuscula; *filamenta* filiformia; *antheræ* lineares, erectæ. Ovarium oblongum, læve; *styli* duo paralleli; *stigmata* convexiuscula. Capsula calyce et corollâ persistentibus involuta, ovata, pallidè ferruginea, rostrato-bicornis. Semina valdè numerosa, minuta, ovalia, rugosula, ferruginea.

The whole of the dried herb of this plant, chiefly the stem and branches, is in general use among the natives of Hindustan and the mountainous countries bordering on it to the north. It is called in Sanserit *Chirāta* or *Chirātatikta*, and in the Bengali and Hindustani languages *Chireta* or *Chirayta*. A very able account of this celebrated drug was given to the Asiatic Society of Calcutta four and twenty years ago, by my late valued friend Dr. Fleming, F.R.S., President of the Medical Board in Bengal, in his *Catalogue of Indian Medicinal Plants and Drugs*, and inserted in the 11th volume of the Asiatic Researches; also printed separately at Calcutta in 1810. As I have reason to believe that the *Chireta* contains a larger proportion and greater intensity of the bitter principle than any other species of Gentian, and that the introduction of this drug into the English Pharmacopœia would be attended with much public benefit, I shall add an extract from Dr. Fleming's paper relating to this subject. Many of the European inhabitants of India can bear witness with me to the excellence of the *Chireta* as a stomachic; and if to this circumstance is added the extreme simplicity as well as cheapness of the remedy, I am not saying too much, perhaps, if I pronounce it one of the most valuable medicines which the materia medica of Hindustan possesses. My own experience has convinced me, however, that the right mode of preparing it has not always been adopted, and that, in consequence, much of the benefit, which its proper exhibition rarely fails to produce, has been lost. A weak infusion, made with *cold* spring or rain water, should be used in small quantities, repeated several times daily for some weeks, when it may advantageously be left off for a short time, and then resumed again. The practice of administering decoctions or infusions made with *hot* water, especially in large quantities, I have myself found objectionable in more respects than one; especially on account of the headache and sensation of redundant bile in the stomach, which are frequently the consequences. I may even venture to adduce, as a favourable testimony of the innocence of this drug, that I have known young children, my own among others, prefer chewing a piece of it, to anything sweet.

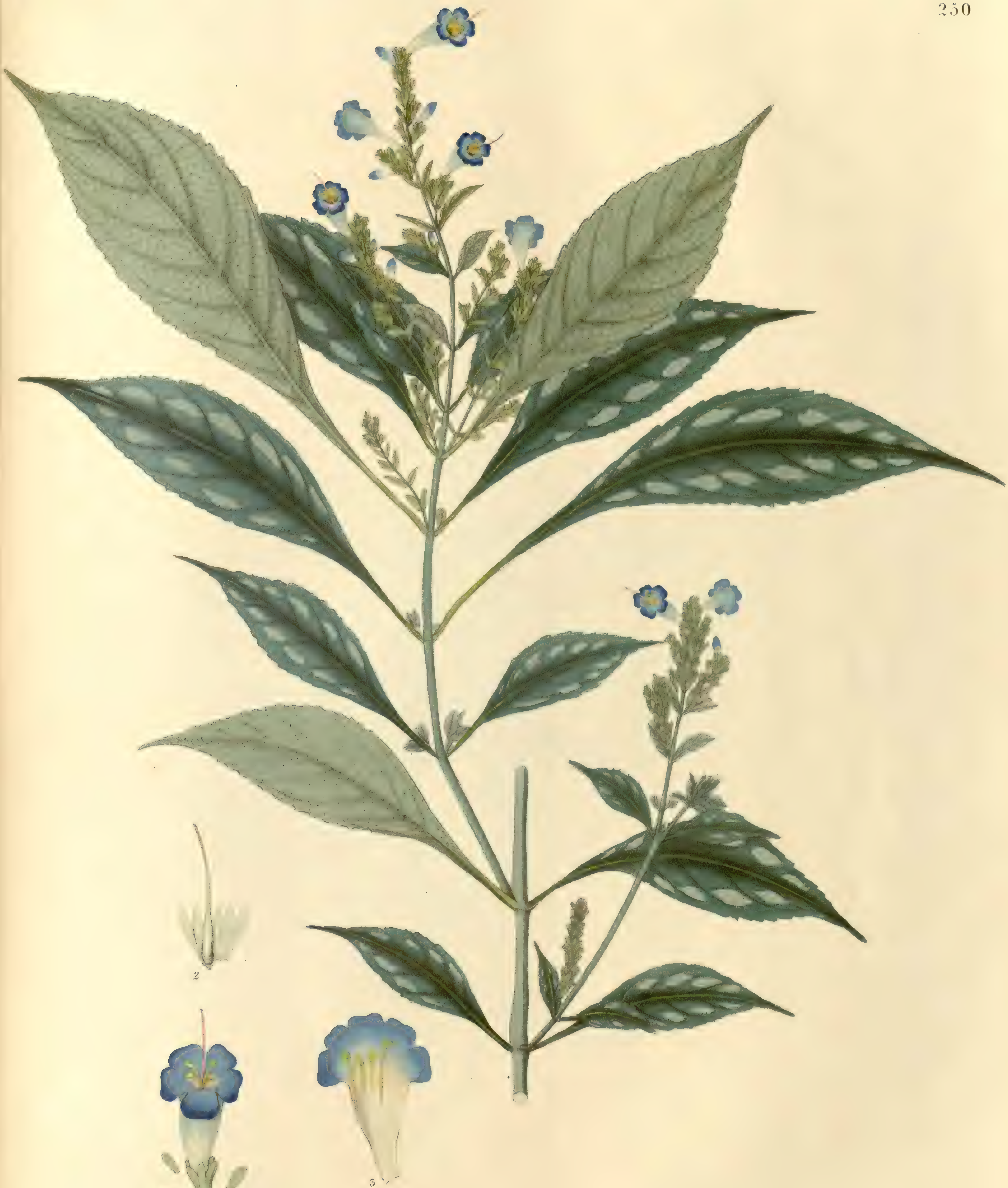
I have mentioned already that the plant is a native of the lower alps of the Himalaya, both of Nipal and Kamoun; and that I found it on the top of Sheopur, in flower and fruit during the rainy season. The plant might therefore be reasonably expected to thrive well in various parts of this kingdom, where I hope to live to see it acclimated and extensively cultivated.

Mr. Richard Battley having at my request politely undertaken the analysis of the drug at his Pharmaceutical Laboratory in Moorfields, I here insert the general results of his experiments, offering that gentleman my best thanks for all the interesting details with which he has furnished me. It is proper to observe, that although the drug which I supplied was of the very best and finest description, yet an allowance ought to be made for its probable age, and for the effects of a long exposure to the vicissitudes of the climate of India. "The Chireta contains, 1, a free acid; 2, a very bitter extractive and resinous matter, and a large proportion of gum; 3, muriate and sulphate of potash and lime. By comparing the results of the experiments with those previously made on the *Gentiana lutea*, it appears that the extractive matter exists in larger proportion, and contains more gum in the latter than in *G. Chireta*, and that spirituous extracts of *G. Chireta* are more aromatic than those of *G. lutea*."

I am indebted to the Honourable East India Company for permission to use Dr. Roxburgh's drawing of the plant, from which the plate has been engraved; and the description which I have given is taken partly from the MSS. of that eminent botanist, and partly from my own notes, written when I had the growing plant before me.

"The dried herb is to be met with in every bazaar of Hindustan, being a medicine in the highest repute with both the Hindu and European practitioners. It possesses all the stomachic, tonic, febrifuge, and antarthritic virtues which are ascribed to the *Gentiana lutea*, and in a greater degree than they are generally found in that root in the state in which it comes to us from Europe. It may therefore on every occasion be advantageously substituted for it. The efficacy of the Chirayita when combined with the *Caranja* nut* in curing intermittents has been already

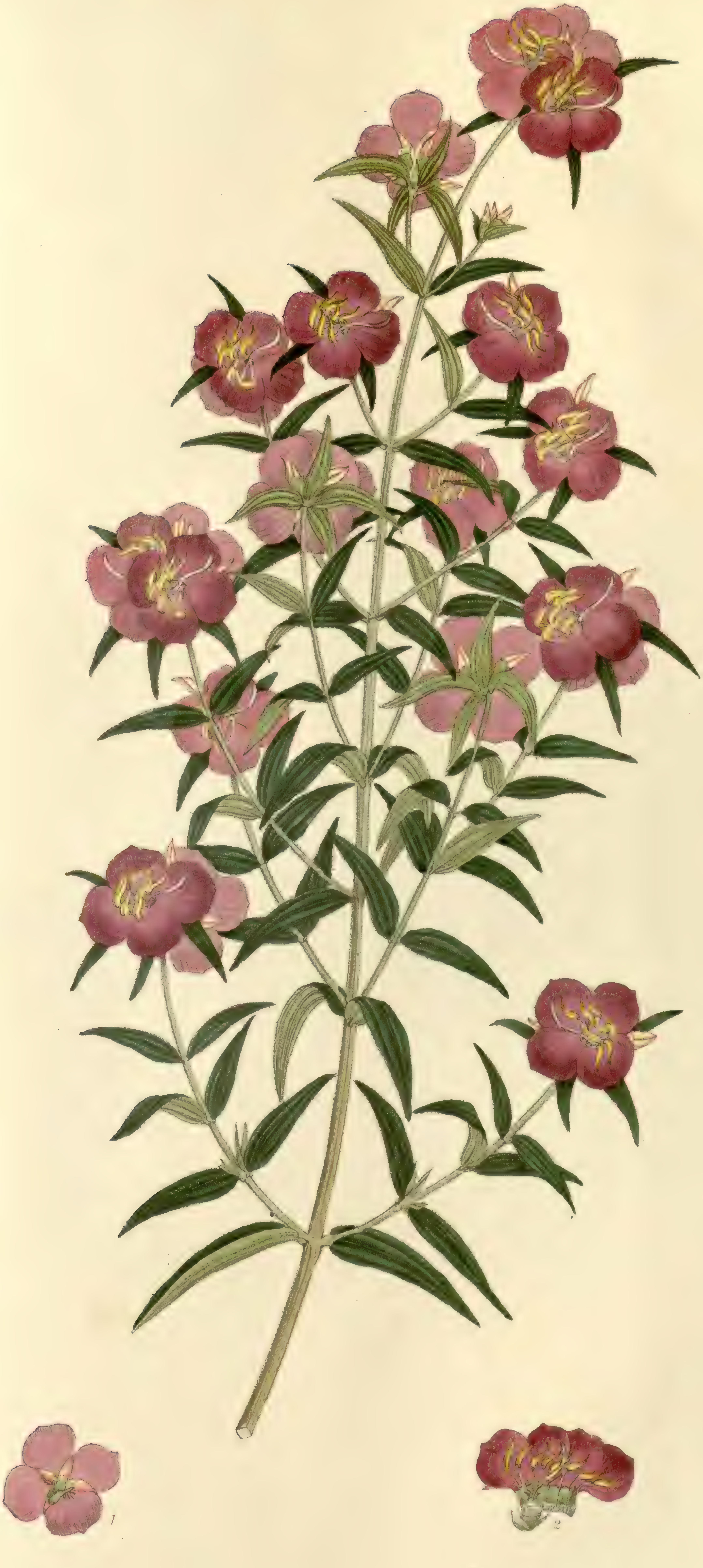
* *Guilandina Bonduccella*, Linn.



Ruellia maculata

Printed by Engelmann & Co.

M. Gauci lith.



Osbeckia angustifolia

[illegible]

Printed by Engelmann & Co.

M. Gauci lith.

Gentiana Chirata.

Printed by Engelmann & Co.

M Gauci lith

mentioned. It is found equally powerful in exciting and strengthening the action of the stomach, and obviating flatulency, acidity, and redundancy of phlegm, in dyspepsia and gout. For restoring the tone and activity of the moving fibre in general debility, and in that kind of cachexy which is liable to terminate in dropsy, the Chirayita will be found one of the most useful and effectual remedies which we can employ. The parts of the plant that are used in medicine are the dried stalks with pieces of the root adhering to them. A decoction of these, or, which is better, an infusion of them in hot water, is the form usually administered. Spirituous tinctures are also prepared from the plant, with the addition of orange-peel and cardamom-seeds; and those who consider such tinctures as of any avail will find these very agreeable bitters. The most useful purpose, however, to which the tincture can be applied is that of being added to the decoction or infusion, with the view of rendering them more grateful to the stomach."—*Fleming.*

Plate CCLII. Fig. 1. 2. Detached flower.

BAUHINIA SEMIBIFIDA. Tab. 253.

Scandens; foliis obovatis, profundè bilobis, stipulis lato-falcatis; racemis terminalibus, calyce 5-phyllo, petalis oblongis, unguiculatis, staminibus 5, quorum 2 sterilibus; legumine plano, glabro, lanceolato, oligospermo.—*Roxb. MSS.*

Hab. in insulis Malayanis. In Horto Calcuttensi e Sumatra allata floret Octobre, Novembre, fructificatque Aprili.

Frutex scandens. Rami variè torti; juniores ferrugineo-tomentosi. Folia approximata, bifariè patentia, petiolata, subobovata, pollices 3—5 longa, 2—4 lata, 7—9-nervia, subglabra, profundè biloba; lobi oblongi, obtusi. Petioli teretes, villosi, longitudine dimidii folii. Stipulæ lato-falcatæ, obtusæ. Cirrhi lignei, persistentes. Racemi terminales, magni, erecti, solitarii, multiflori. Flores majusculi, fragrantes, albi, demùm pallidè flavi, successivè a basi ad apicem inflorescentiæ aperti. Pedicelli adscendentes, clavati, 1—2-pollicares, apice (infra pedicellum ovarii) concavi, cum *pedunculo communi* omnibusque partibus recentibus ferrugineò villosi. Bracteæ parvæ, caducæ. Calycis *laciniæ* 5 lineares, crassæ et carnosæ, reflexæ, caducæ. Petala 5 oblonga, unguiculata; 2 multò majora. Filamenta 5, glabra, alba, quorum exteriora 3 fertilia, incurva, petalis majoribus breviora; interiora 2 brevissima. Antheræ magnæ, incumbentes. Ovarium brevè pedicellatum, oblongum, villosum, ovulis 8—10. Stylus brevis, crassus, villosus. Stigma maximum, viscosum. Legumen lanceolatum, tenue, læve, brunneum. Semina pauca, plana, suborbicularia, glabra.—*Roxb. MSS.*

Plate CCLIII. Fig. 1. Flower, dissected. 2. Pod. 3. 4. 5. Seed. 5. The same, cut across.

EUONYMUS GRANDIFLORUS. Tab. 254.

Euonymus grandiflorus, Wall. in Roxb. Flor. Ind. vol. 2. p. 404. Ejusd. Tentam. Flor. Napal. vol. 1. p. 41. tab. 30.

Crescit in sylvis convallis Napaliæ, ubi floret mensibus Aprilis, Maji, fructificatque Septembre. In Kamoun legit R. Blinkworth.

Plate CCLIV. Fig. 1. 2. Flower. 3. The same, dissected. 4. A ripe capsule.

ROSCOEA CAPITATA. Tab. 255.

Roscoea capitata, J. E. Smith in Act. Soc. Linn. vol. 13. p. 461.

Crescit in montibus Napaliæ summis versus Gossain Than, florens mense Julii.

Planta erecta, gracilis, lævis, staturâ admodùm varians, a palmari ad altitudinem pedalem bipedalemve elevata. Radix constans tuberibus pluribus pendulis, oblongis, carnosis, pallidis, fasciculatis, tripollicaribus, brevè stipitatis, apice attenuato fibrillosis. Caulis cylindricus, basi vaginatus, levitèr complanatus, a penna cygnea usque ad digitum minimum crassus, apice gracillimus, nudus. Folia approximata, erecto-patentia, subbifaria, ferè graminea, lineari-ensiformia, canaliculata, valdè acuminata, 6—10-pollicaria, infima brevissima, suprà atroviridia, nitida, tenuitèr parallelè et obliquè nervosa, subtùs pallida, basi contractâ et complicatâ desinentia in vaginam longam, subcompressam, laxiusculam, ore obliquam; harum inferiores nudæ. Flores cœrulei, subfastigiati, illis *Roscoeæ purpureæ* minores, conferti in capitulum oblongo-ovatum, 2—3-pollicare, pedunculatum extremitate caulis nudâ, elongatâ, gracili, tereti, 6-pollicari, apice ad insertionem capituli paullò incrassatâ, foliis breviore. Squamæ oblongo-lanceolatæ, acutæ, adpressæ, planæ, glaucescentes, lineatæ, sesquipollicares, 1-floræ, persistentes. Calyx membranaceus, sursùm parùm dilatatus, hinc planiusculus, bicarinatus, angulis oreque obliquo ciliatis, apice bicuspidatus. Corollæ *tubus* gracilis, pallidus, calycem bracteamque longitudine subæquans. Limbus patens, bilabiatus, ferè pollicaris; *exterioris laciniæ laterales* lineares, obtusæ, recurvatæ, *intermedia* erecta, oblonga, fornicata, acutiuscula; *interioris laciniæ* 2 cuneato-falcatæ, obtusæ, parallelæ, attenuato-unguiculatæ, intra fornicem ferè occultæ; *labellum* recurvato-patens, ovatum, bilobum, obtusum, basi attenuatum, ferè pollicare. Filamentum brevissimum, anticè planiusculum et sulcatum; *anthera* adscendens, arcuata, basi biloba. Ovarium ovatum, glabrum, 3-loculare, polyspermum, ovulis placentæ centrali adfixis; *stylus* capillaceus; *stigma* minutum, convexum, ciliatum. Capsula ovata, obtusè 3-angularis, tubo calycino emarcido superata, membranacea, lævis, ferruginea, magnitudine ferè fructûs grossulariæ modici, 3-locularis, 3-valvis. Semina parva, in singulo loculo 10 vel 12, duplici serie placentæ axili gracili alternatìm inserta, imbricata, adscendentia, obovata, lævia, fusca, basi munita arillo brevi, tenui et ferè membranaceo, laxiusculo, albido, inæqualitèr sublaciniato-dentato.

Besides the above species I have found abundance of Sir J. E. Smith's *R. elatior* in Nipal, of which I will add an account. Whether one of the two other spiked species recorded by that immortal botanist ought not to be reduced to this last as a variety, I am at present unable to determine.

Roscoea elatior, Smith in Act. Soc. Linn. vol. 13. p. 460.
Habitat ad montis Sheopur Napaliæ cacumen vigens sub pluviis. In Kamoun legit Robertus Blinkworth.

Planta erecta, cæspitosa, 1—2½-pedalis. Radix constans fasciculo denso fibrarum longarum, villosarum, quarum quædam aliquandò in tubera gracilia, cylindracea, utrinque attenuata dilatantur. Caules plures, cylindrici, induti *vaginis* foliorum adpressis, membranaceis, parallelè lineatis, purpureo-punctulatis, puberulis, secus margines sæpè purpurascentibus, inferioribus longioribus aphyllis; apice gracillimus, nudus. Folia aliquot versus apicem caulis subapproximata, patentia, subbifaria, lanceolata, valdè acuminata, basi obtusa, suprà atroviridia lævia, nitida, subtùs glaucescentia, costâ obsoletè puberulâ; pollices 8—10 longa, sessilia, vel perquàm brevitèr petiolata, ore vaginæ ligulâ brevi, roundatâ, purpurascente. Spica terminalis, erecta, apice caulis gracili, tereti, 2-pollicari pedunculata, nunc ferè sessilis, 3—5-pollicaris. Flores pauci, solitarii, magni, flavi, alterni, subsecundi, remoti, sessiles super rachin angulatam, rectam, suffulti *bracteâ* ovatâ, obtusâ, subtruncatâ, membranaceâ, 6—8 lineas longâ, concavâ. Calyx tubulosus, ⅔-pollicaris, purpurascens, posticè planus, ore obtusè et inæqualitèr bidentato. Corollæ *tubus* gracilis, calycem parùm excedens; *limbi* patenti-infundibuliformis, subbilabiati, tubo parùm brevioris *laciniæ* 3 *exteriores* oblongo-lineares, obtusæ, postica latior, subfornicata; *interiores* exterioribus lateralibus magnitudine et formâ subsimiles, cuneatæ, obtusæ, deorsùm attenuatæ, intra fornicem conniventes, hacce ferè occultæ; *labellum* obovatum, profundè bilobum, lacinias exteriores longitudine æquans, subunguiculatum, basi canaliculatum, lobis oblongis, apice obtuso obsoletè crenulatis. Filamentum brevissimum, carnosum sulcatum, fauci tubi posticè insertum; *anthera* arcuata, adscendens, obtusa, loculis parallelis, basi liberis, subulatis. Ovarium glabrum, ovatum, purpureum, 3-loculare, polyspermum; *stylus* capillaceus, basi glandulis duabus subulatis, flavis, longiusculis, lateralitèr munitus, stamine parùm longior, laxèque per sulcum filamenti antheræque adscendens; *stigma* subclavatum, carnosum, bilobum, lobo superiore tumido. Capsula globosa, lævis, fusca, bracteâ persistente suffulta et hacce brevior, calyce tubulari coronata.

Plate CCLV. Fig. 1. Flower. 2. The same, opened. 3. Dorsal segment of the outer limb of the corolla. 4. One of the two segments of the inner limb.

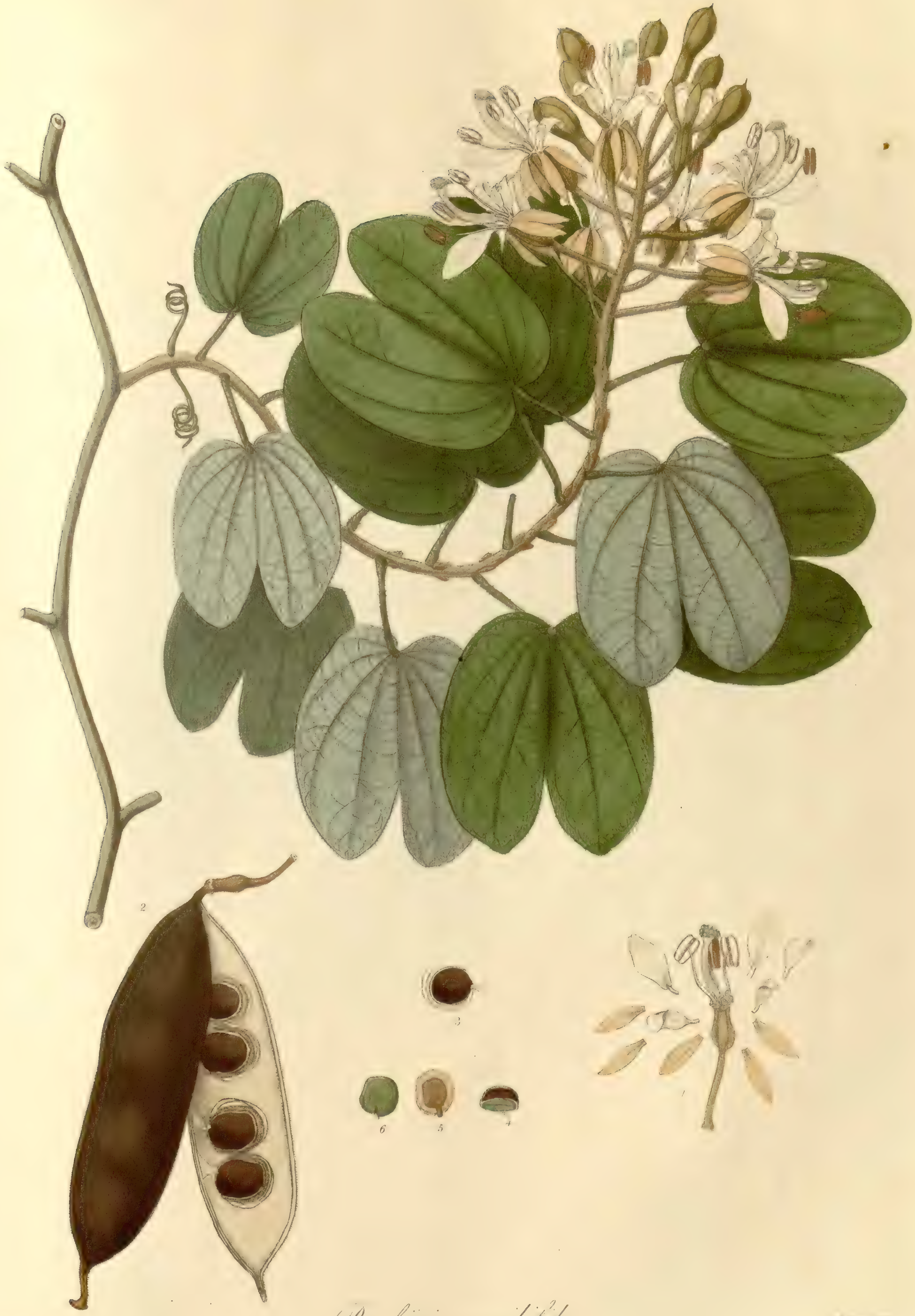
CAMELLIA Kissi. Tab. 256.

Camellia Kissi, Wall. in Act. Soc. Asiat. Calcutt. vol. 13. p. 428.
Habitat in montibus Napaliæ, florens mensibus Julii—Octobris, fructifera Januario.

Having given a detailed account of this species of *Camellia* in the Asiatic Researches, I shall only remark here, that I found this charming shrub in abundance on the mountains surrounding the valley of Nipal. I am acquainted with one, perhaps two, new species, both of them natives of the mountains bordering on the district of Sillet, one of which may be designated in the following manner:—

Camellia caudata (Cat. Herbar. Ampl. Procur. Britan. Ind. Orient. n. 978.), foliis lanceolatis, attenuato-acuminatissimis, acutè serrulatis, basi subintegerrimis, petiolis ramisque novellis puberulis; floribus axillaribus terminalibusque fasciculatis, staminibus stylisque villoso-barbatis, petalis extùs villosis, stigmatibus vix exsertis.

Plate CCLVI. Fig. 1. Flower, dissected. 2. A portion of the stamens. 3. Ripe fruit. 4. Capsule, after the seeds have fallen out. 5. Seed. 6. The same, cut across. 7. Embryo.

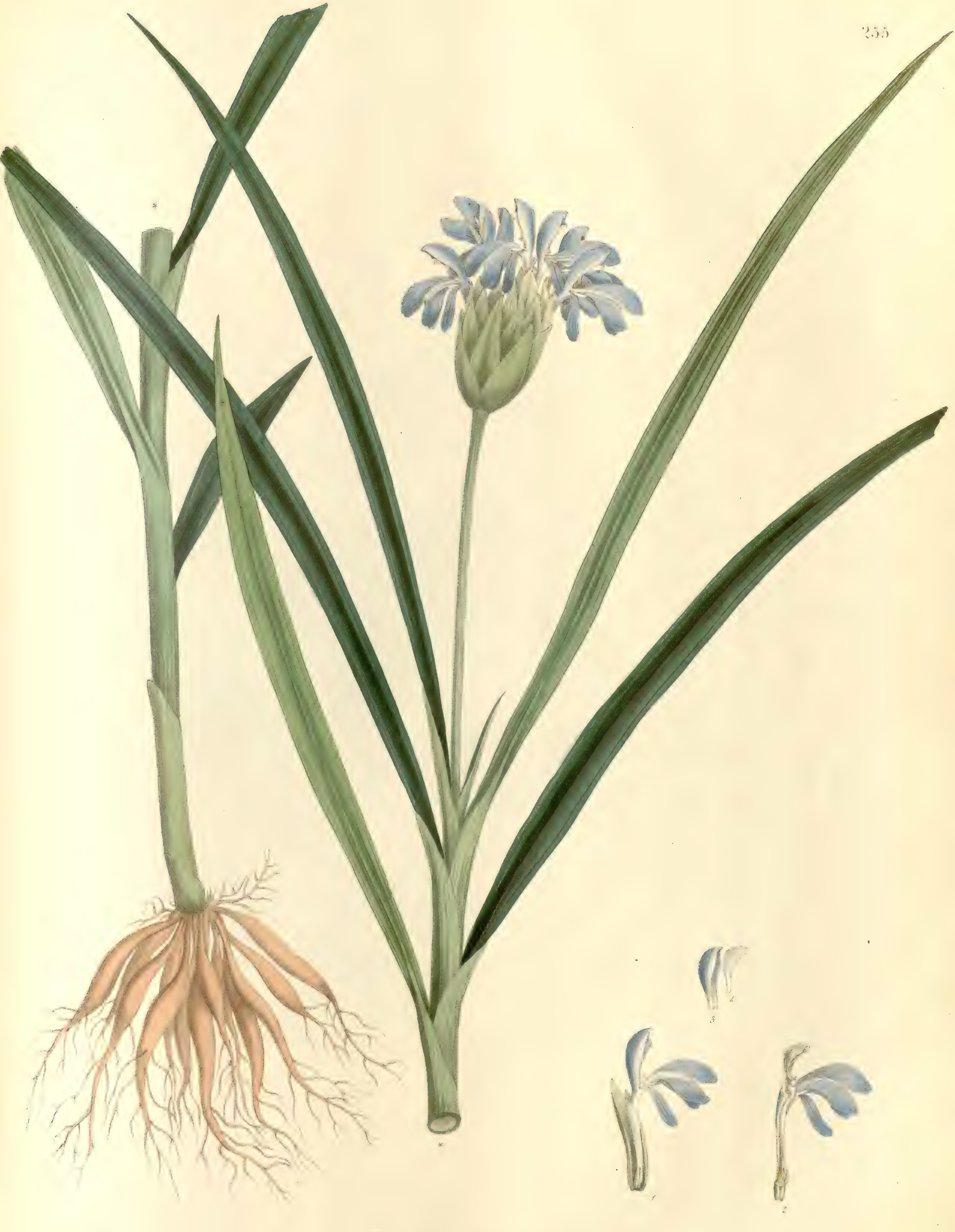


Bauhinia semibifida?

unupersaud del.

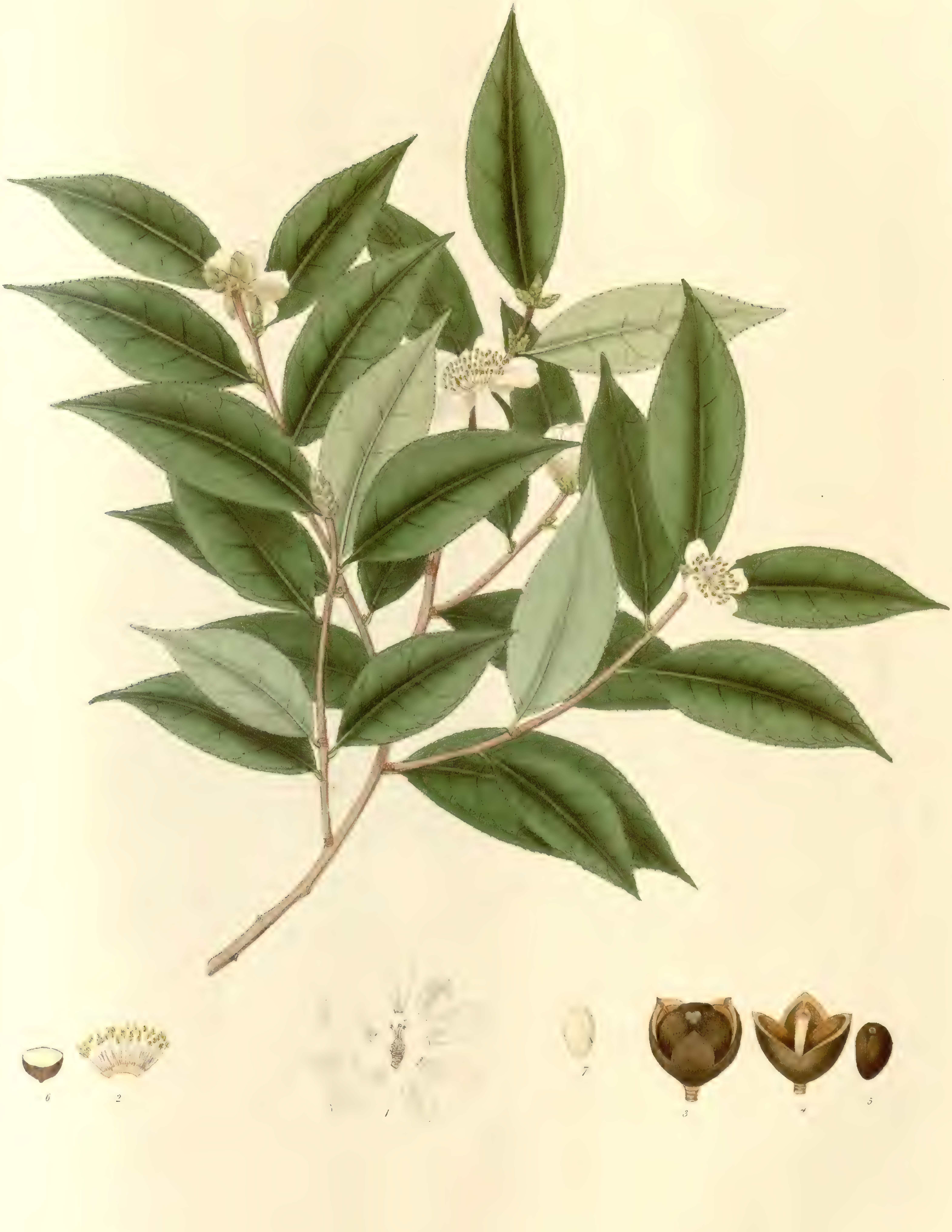
Euonymus grandiflorus.

M. Gauci lith.



Roscoea capitata

Printed by Graf & Soret



Camellia Kissi

Gorachand delt. Printed by Graf and Soret.

SMILACINA FUSCA. Tab. 257.

Lævis; radice moniliformi-articulatâ; caule arcuato-adscendente, supernè foliis ovato-cordatis, acuminatis, petiolatis; paniculâ terminali, subdecompositâ, rachi pedunculisque divaricato-flexuosis.

Crescit versus apicem montis Sheopur Napaliæ, florens mensibus Maji et Junii.

Radix horizontalis, repens, carnosa, more *Convallariæ polygonatæ* subarticulata et caulium emortuorum vestigiis cicatrisata, digitum minimum crassa, viridis, glabra. Caulis erectus, adscendenti-arcuatus, cylindricus, simplex, pennam anserinam crassus, pedalis—1½-pedalis, uti omnes partes reliquæ glaber, apice foliosus, inter folia summa flexuosus, basi *vaginis* paucis remotis, brevibus, ovatis, membranaceis, laxiusculis. Folia 4 vel 5 ad superiorem caulis partem approximata, alterna, adscendenti-subsecunda, ovato-cordata, longè acuminata, integerrima, plana, membranacea, lobis basis rotundatis, 3—5-pollicaria, usque ad palmaria, suprà nitida, saturatè viridia, subtùs lucida, 7-nervia, nervis prætereà capillaceis plurimis interjectis, transversè reticulata. Petiolus cylindricus, canaliculatus, pollicaris. Panicula terminalis, oblongo-ovata, aphylla, subsessilis, vel elongatione caulis brevitèr pedunculata, 6-pollicaris, nunc subdecompositè ramosa. Pedunculus *communis rachis*ve teres, gracilis, *partiales*que divaricato-flexuosi. Bracteola ovata, acuta, membranacea, emarcescens ad singulam pedunculorum divisuram. Flores parvi, ovato-campanulati, purpureo-fuscescentes, inodori, alternantes, dispositi in racemos breves, patentes, suffulti *pedicellis* capillaceis, unguicularibus, divaricato-arcuatis. Perianthii campanulati, profundè 6-partiti, decidui *laciniæ* ovatæ, obtusæ. Stamina erecta, laciniis opposita iisdemque dimidiò breviora; *filamenta* albida, basi dilatata; *antheræ* parvæ, ovatæ. Ovarium ovatum, obtusè triangulare, 3-loculare, ovulo in singulo loculo solitario, raró gemino; *stylus* columnaris, brevis; *stigma* subtruncatum. Bacca globosa, magnitudinis seminis *Piperis nigri*, 3-locularis, 3-sperma.

Plate CCLVII. Fig. 1. 2. Flower. 3. The same, dissected.

GARCINIA SPECIOSA. Tab. 258.

Foliis oblongo-ellipticis, utrinque acutis, brevè petiolatis; floribus paucis, terminalibus, fasciculatis, pedunculatis, omnibus hermaphroditis, staminum basi monadelphorum cohortibus 4 divaricatis, stigmate crassissimo, subquadrato.

Crescit in sylvis litoralibus oræ Martabaniæ, ad Amherst; florens Februario.

Arbor magna, trunco recto crasso, cortice rimoso, sordidè fusco. Ramuli tetragoni, pallidè virides, glaucescentes, uti omnes partes glaberrimi. Folia patentissima, subapproximata, oblonga, vel oblongo-elliptica, utrinque acuta, valdè firma et coriacea, 6-pollicaria ad pedalia, plana, lucida, subtùs nervis copiosissimis parallelis capillaceis, ferè inconspicuis transversè lineata, costâ carinatâ. Petiolus semipollicaris, suprà plano-concavus. Flores valdè magni, patentes, flavi, fragrantissimi, diametro pollicari, pauci (4 vel 5) dispositi in fasciculum terminalem, omnes hermaphroditi. Pedunculus petiolo bis terve longior, cylindricus. Calycis *laciniæ* crassæ, concavæ, exteriores lato-ovatæ, semiunguiculares, interiores breviores, subreniformes. Petala valdè crassa, flava, rotundata, calyce quadruplò majora, vix basi in unguem contracta. Stamina admodùm numerosa, brevia, disposita in cohortes 4 divergentes, ovato-globosos, basi confluentes. Stylus brevis, columnaris, crassus. Stigma maximum, subtetragonum, vertice convexum, vix supra stamina elevatum. Fructus haud visus.

This fine tree has the largest flowers of all the species with which I am acquainted. Their fragrance is exquisitely delightful, like that of Roxburgh's *Garcinia paniculata*. The foliage is very large, coriaceous, and shining. Almost every part of the tree abounds in a copious yellow juice, which on desiccation resembles the true Gamboge.

Plate CCLVIII. Fig. 1. Flower, dissected.

ANGUILLARIA INDICA. Tab. 259.

Anguillaria indica, Brown Prodr. Flor. Nov. Holl. vol. 1. p. 273.

Inveni copiosè in Napaliæ sylvis florens fructiferaque Majo. Fructiferam legi in montibus Prome ripæ fluminis Irawaddi Januario. In Kamaon (R. Blinkworth). In peninsula Indiæ (Herb. Russelianum, Heyneanum, Madraspatanum, Wightianum, in Museo Ampliss. Procur. Britann. Ind. Orient. asservata).

Herba erecta, glabra, glaucescens, a pollicibus 6 ad pedem et dimidium usquè emetiens. Bulbus parvus, ovatus, tunicâ fuscâ duplici vel triplici indutus. Caulis gracilis, debilis, teres, lineatus, supernè angulatus, distantèr vaginatus, simplex vel supernè ramum unum alterumve emittens erectum, simplicem. Folia graminea, erecta, sàt numerosa, rigidula, alterna, latiusculè linearia, nunc angustè linearia, attenuata, subtilissimè acuminata, interstitiis pluriès longiora, 6—8-pollicaria, quin pedalia, lineas 3 ad 6 lata, basi paullò contractâ desinentia in *vaginam* pollicarem, adpressam, canaliculato-complicata, suprà lucida, subtùs glaucescentia, obsoletè 5-nervia, multilineata, marginibus levitèr recurvatis; summa caulis et floralia brevia, evaginata. Flores ad apicem caulis ramorumque brevitèr racemosi, extra-axillares, atropurpurei, ferè fusci, inodori. Pedunculi uniflori, subcarinato-angulosi, graciles, foliis breviores, 1—2-pollicares, nudi; fructiferi parùm elongati. Bracteæ nullæ. Petala stellatìm patentissima, lineari-cuneiformia, plana, æqualia, lineas 6—8 longa, valdè acuta, deorsùm attenuata in unguem linearem, suprà lucida mediòque sulco superficiali inscripta. Stamina atropurpurea, erecta, petalis oppositis quadruplò breviora, et ex eodem puncto cum iis orta; *filamenta* subulata, crassiuscula, villosula; *antheræ* ovatæ, subcordatæ, levissimè versus stigma inclinatæ. Ovarium trigono-obovatum, obtusum, sessile, læve, viride, 3-loculare, polyspermum, ovulis axi adfixis; *styli* 3, seriùs decidui, cylindrici, rugosuli, recurvati, ovario breviores, atropurpurei; *stigmata* brevissima, simplicia, acuta. Capsula obovata, obtusè triangularis, trisulcata, magnitudine baccæ *Coffeæ*, lævis, nuda, vertice aliquandò stigmatibus emarcidis coronata; *valvæ* cuneiformes, quarum septi medii margini adhærunt *semina* parva, subglobosa.

Notwithstanding the great size of the Nipal, Kamaon and Prome plants, which have been described above, I hesitate not to consider them as belonging to one and the same species as the specimens from the Peninsula of India preserved in the Honourable Company's herbaria under my charge. I suspect that Roth's *Melanthium racemosum* and *caricinum* are not specifically distinct from our plant.

Plate CCLIX. Fig. 1. Flower. 2. The same, dissected. 3. A detached stamen. 4. Ovary. 5. 6. The same, opened.

ALLIUM BLANDUM. Tab. 260.

Bulbo oblongo, solido; scapo cylindrico; foliis linearibus, obtusis, planis, glaucis, lævibus; umbellâ erectâ, capsuliferâ, globosâ, densiflorâ, spathâ brevi, obtusâ, bivalvi; filamentis teretibus, subæqualibus, lacinias corollæ oblongas, obtusas, exteriores breviores superantibus; ovario vertice striato.

Specimina florentia nec non bulbos recentes e Khusbusea in Tartaria Chinensis a se lectos misit Dom. W. S. Webb, anno 1818, nomine vernaculo *Doom*. In Horto Calcuttensi floruit Martio 1819.

Bulbi aliquot solidi, oblongo-cylindrici, sesquipollicares, tunicâ obtecti fuscescente, uti tota planta glabrâ. Scapus cylindricus, gracilis, pedalis, erectus, lævis, glaucescens, pennam columbinam parùm excedens. Folia versus basin scapi approximata, erecta, linearia, plana, obtusa, tertiam pollicis partem lata, glauca, in *vaginam* desinentia brevem, arctè adpressam. Umbella erecta, globosa, densiflora, haud bulbifera, diametro 2-pollicari. Spatha brevis, bivalvis, diutiùs manens. Pedunculi teretes cylindrici, unguiculares. Flores parvi, ex albo dilutissimè rosei, odorati. Corollæ *laciniæ* oblongæ, obtusæ, exteriores dimidiò ferè breviores. Stamina corollâ duplò longiora, erecta; *filamenta* tereti-subulata, erubescentia, subæqualia; *antheræ* parvæ, oblongæ, flavæ. Ovarium globosum, glaucum, supernè striis 6 viridibus convergentibus, alternatìm latioribus, maculisque totidem purpureis inscriptum; *stylus* staminibus parùm brevior, rufescens.

This neat plant approaches closely to *Allium carolinianum* of Redouté; but I apprehend it is sufficiently distinct to warrant my separating it from that species.

Plate CCLX. Fig. 1. Flower. 2. The same, opened. 3. Ovarium.

PRINOS GODAJAM. Tab. 261.

Foliis oblongo-ellipticis, integerrimis, acutiusculis, lævibus; petiolis ramulisque pubescentibus; umbellis lateralibus multifloris; floribus 4—6-fidis; baccis 5—8-pyrenis.

Prinos Godajam, Colebr. MSS.

Ilex rotunda, Herb. Hamilton. *Ilex rotunda* Thunb.? et *Ilex asiatica*, Ejusd. Catal. Ined.

Nomen Bengalense (in Sillet), *Gòdàjàm* (Colebr.).

Habitat in Sillet (Colebrooke), unde specimina misit Gulielmus Gomez. Ad Jolpigory Kamrupæ borealis (Hamilton).

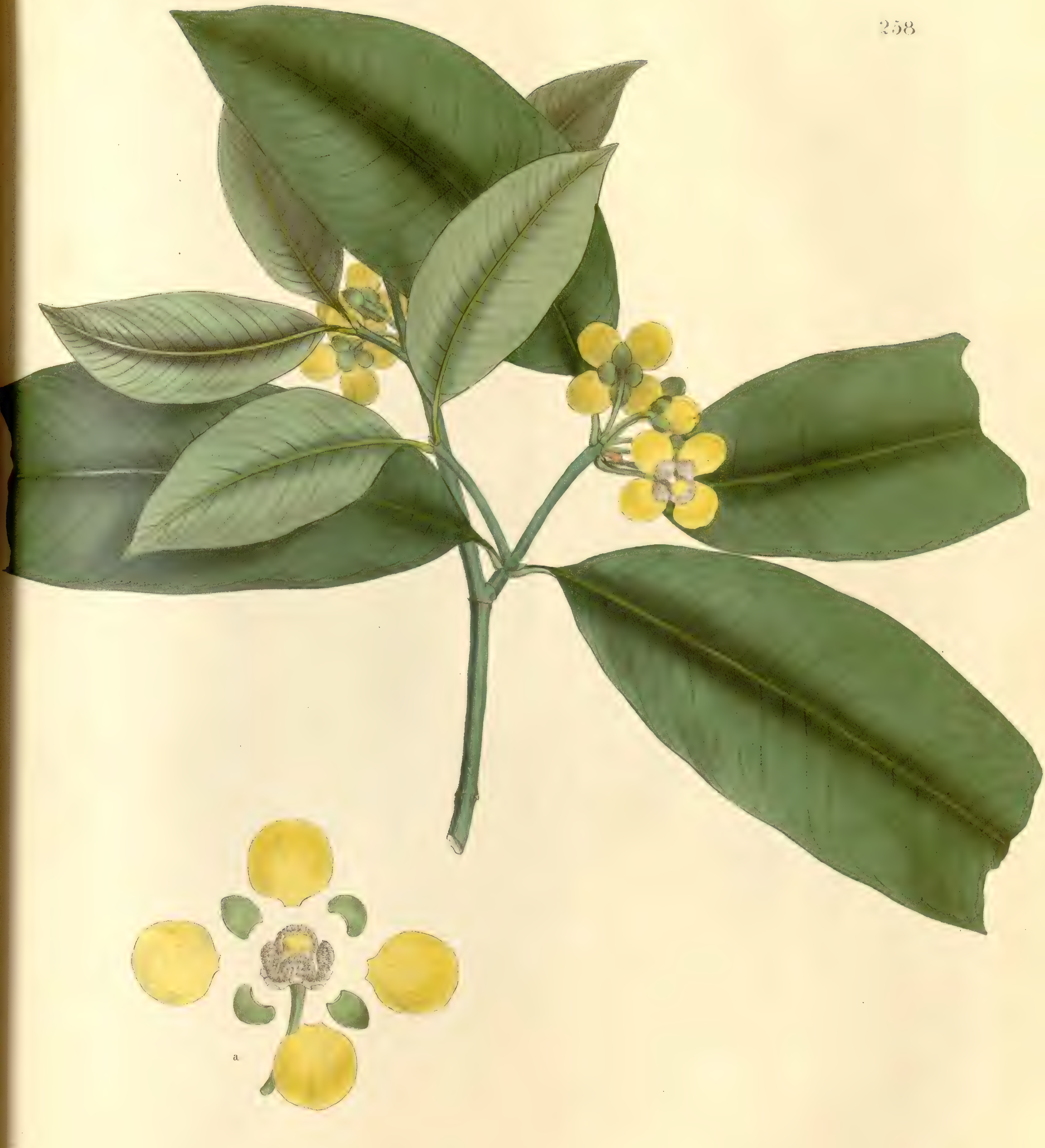
Truncus arboreus, cortice griseo. Ramuli cinerei, tenelli pubescentes. Folia alterna, petiolata, elliptica, integerrima, acutiuscula, levitèr undulata, glabra, (nitida?), 3—5-pollicaria, pollices 1½—2 lata, basi rotundata, subtùs pallida, costâ gracili, nervis tenerrimis, intra marginem anastomosantibus. Petiolus semipollicaris, pubescenti-villosulus, suprà sulcatus. Umbellæ laterales, infra folia

Smilacina fusca

Gorachand del^{t}

M Gauci lith

Printed by Graf & Soret



Garcinia speciosa.

Vishnupersaud delᵗ. Printed by Graf and Soret. M. Gauci lith.

Anguillaria indica

M Gauci lith

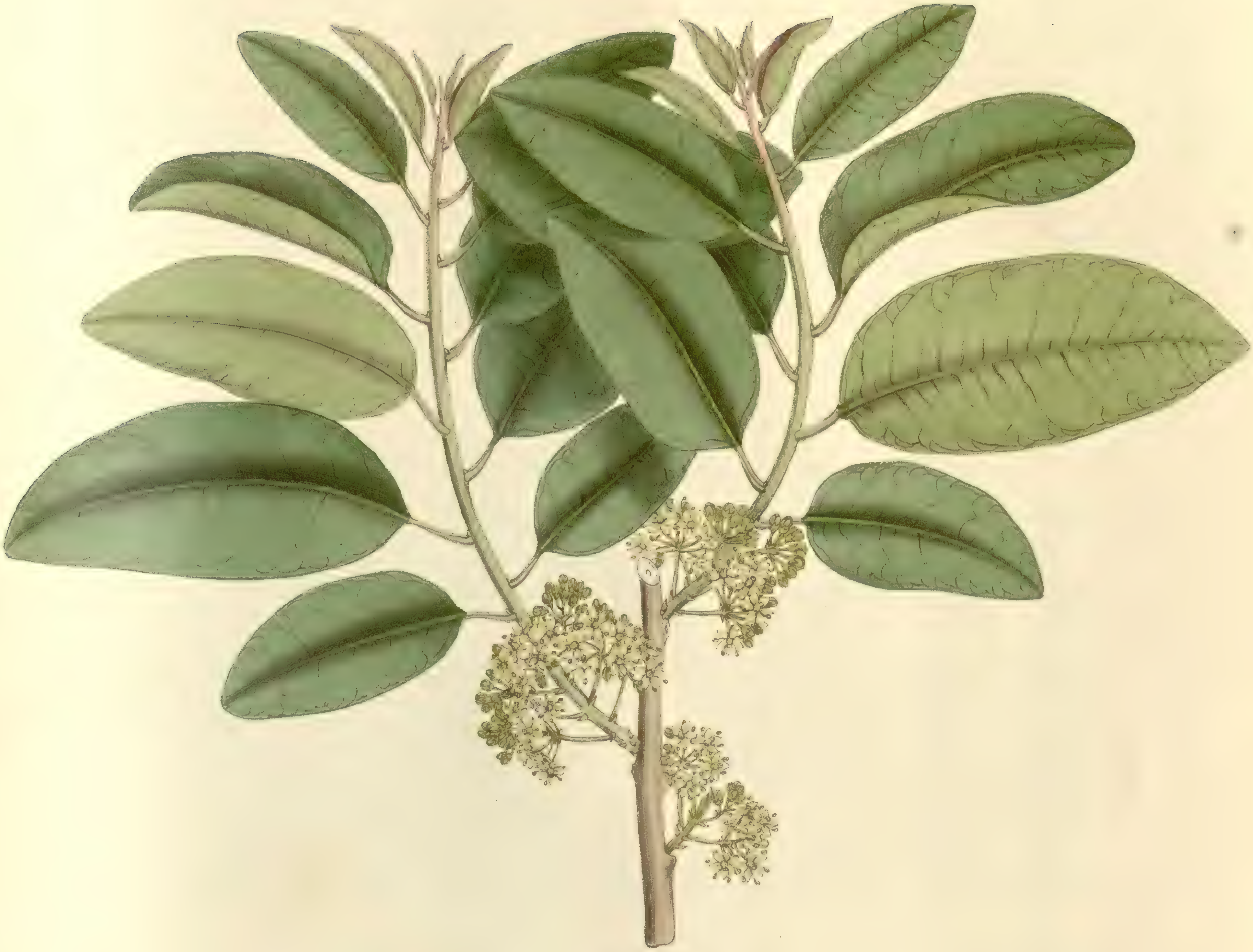
Printed by Graf & Soret, 14, Newman St.

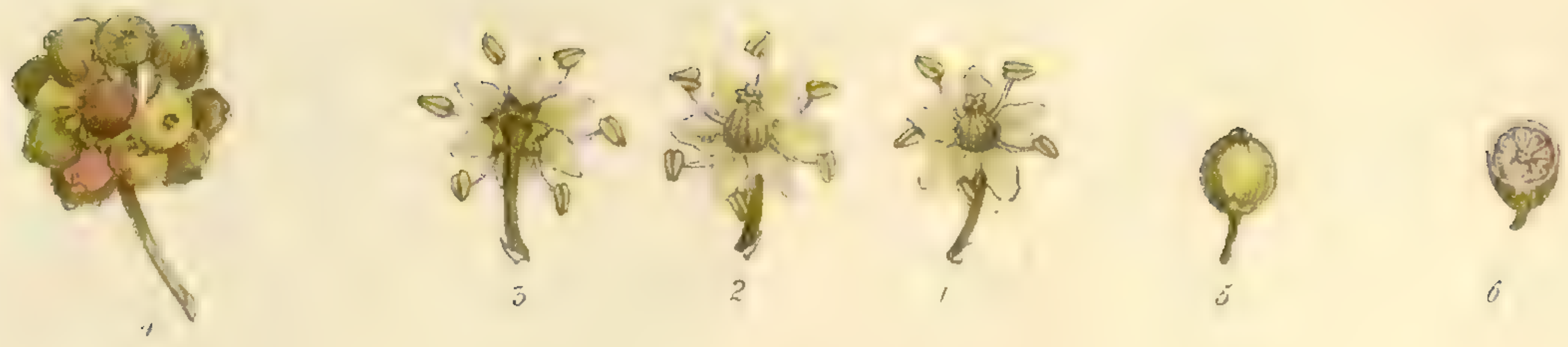
Goachaud del.

Allium blandum.

M Gauci lith.

Printed by Graf & Soret 14 Newman St





Prinos Godajam

Gerachaud delt

Printed by Graf & Soret 14 Newman St.

M. Gauci lith

prodeuntes, simplices, pedunculatæ, globulares, multifloræ. Bractea parva, ovata, concava infra pedunculum communem pedicellosque. Flores e viridi lutescentes, hermaphroditi. Calyx parvus 5- (4—6-) partitus; *laciniæ* rotundatæ, ciliatæ, persistentes. Petala 5 (4—6) ovata, patentia. Filamenta subulata, incurva, laciniis calycinis petalisque numero æqualia. Ovarium rotundatum, sulcatum. Stylus nullus. Stigma peltatum, 5—8-lobum. Bacca globularis, carnosa, subpellucida, glabra, nitida, rufescens, magnitudine seminis *Piperis nigri*, suffulta, calyce persistente, vestigio stigmatis coronata. Placenta centralis, columnaris. Semina 5—8, dorso convexa, 3-sulcata, latere interiore acutè angulato, coloris melini, subdiaphana, obtecta *arillo* membranaceo. Putamen osseum, fragile, hinc trisulcatum. Integumentum *interius* membranaceum. Perispermum cavitati seminis conforme, carnoso-oleosum, album. Embryo minutus, erectus.—*Colebr. MSS.*

Mr. H. Colebrooke has had the goodness to favour me with the preceding account, as well as with the drawing from which the engraving was taken. The late Dr. Hamilton called this plant *Ilex rotunda* in his herbarium, and quotes both that species and *I. asiatica* with a doubt in his unpublished Catalogue; but it is probably different from both.

Plate CCLXI. Fig. 1—3. Flower. 4. Umbel of berries. 5. A detached berry. 6. The same, divided transversely.

STERCULIA ROXBURGHIANA. Tab. 262.

Foliis oblongo-lanceolatis, acuminatis, integerrimis, glabris; floribus longè pedicellatis, racemosis, laciniis lanceolatis, patentibus, acutis, distinctis; folliculis oblongis, villosis, 4—8-spermis.

Sterculia lanceofolia, Roxb. Hort. Beng. et MSS. (haud *S. lanceolata* Cavan.)

Habitat in Sillet et in montosis contiguis. In Hortum Calcuttensem introduxit M. R. Smith; specimina sicca miserunt De Silva et Gomez. Floret Martio et Aprili; fructificat Majo et Junio.

Arbor mediocris trunco ramisque cinereis; *ramuli* teretes, uti folia primùm brevitèr pubescentes, demùm glabri. Folia patentia, approximata, sparsa, oblongo-lanceolata, attenuato-acuminata, integerrima, basi obtusa nunc obsoletè retusa, membranacea, 4—8-pollicaria, lævia, suprà nitida, subtùs costâ nervisque valdè obliquis anastomosantibus, gracilibus, pallidis. Petioli graciles, pollicem vel 2 longi, utrâque extremitate cylindraceo-tumidi, demùm glaberrimi. Stipulæ parvæ, subulatæ, crassæ, gibbosæ, valdè deciduæ. Racemi simplices, subsessiles, solitarii, axillares, vel infra folia sparsi, iisdem breviores, tenuiflori, patenti-nutantes, 4-pollicares. Pedunculus filiformis, teres, *pedicelli*que capillacei, longi, bipollicares, alterni, pubescentiâ stellatâ, tenui conspersi. Bracteolæ minutæ, lineares per pedicellos sparsæ. Flores coccinei, extùs levitèr pubescentes, plurimi masculi. Perianthii subcampanulati *laciniæ* lanceolatæ, acutæ, patentes, planæ, distinctæ, unguiculares. Antheræ paucæ congestæ in capitulum parvulum, suffultum stipite declinato, gracili, perianthio tertiò breviore. Folliculi 1—5 oblongi, obtusi, 3-pollicares, pubescentiâ brevi asperuli. Semina 4—8 ovalia. Integumenta 3; *exterius* fragile, nigrum, nitidum; *medium* tenue, fuscum; *interius* membranaceum, pallidè ferrugineum; inter exterius et medium invenitur *lamina* mollis, fuscescens, sebacea. Perispermum parcum. Embryo rectus, pallidè flavus; *cotyledones* crassæ, carnosæ, magnitudine ferè perispermi; *radicula* in apice seminis, extremitati umbilicali opposito locata, ovata.

The foregoing account of this elegant and very distinct species has been chiefly derived from the manuscript of Dr. Roxburgh, after whom I have called the tree, in order to prevent the name *Sterculia lanceofolia* which he had given to it being confounded with Cavanilles's *S. lanceolata.*

VALERIANA HARDWICKII. Tab. 263.

Valeriana Hardwickii Wall. in Roxb. Flor. Ind. vol. 1. p. 166. Decand. Prodr. Syst. Nat. Regn. Veget. vol. 4. p. 640.

V. Hardwickiana Roem. et Schult. Syst. Veg. Mant. 1. p. 259.

Valeriana, Hardwicke in Act. Soc. Asiat. Calc. vol. 6. p. 350.

Habitat in montibus Napaliæ, Kamaon et Sirmore. In montibus Sillet (DeSilva et Gomez). Florens et fructifera ferè toto anno.

Since publishing my account of this species in Roxburgh's work I have met with it in the forests of Nipal, where it grows in abundance, and is in flower and fruit almost the whole year round. While I resided in that country it was also brought to me by my collecting parties from the road leading to Gossain Than. Its usual height is two or three feet.

The following observations refer to several plants of the tribe of *Valerianeæ* noticed by my most revered friend Professor DeCandolle in the 4th volume of the invaluable work which he is publishing.

Valeriana repens, Decand. Prodr. Syst. Nat. Regn. Veg. vol. 4. p. 640. Wall. Cat. n. 434.
Habitat in alpibus versus Gossain Than, florens Julio.

Caules sæpè plures, pedales 2-pedalesque, graciles, lineati, subsimplices, inferiore parte repentes, *radiculis* fasciculato-fibrosis fasciculatis, graveolentibus, e basi sæpè emittentes ramos luxuriantes, cauliformes, gracillimos, apice foliosos; uti cæteræ partes pube conspersi tenui, canescente. Folia *inferiora* simplicia, latè ovato-cordata, acuminata, obtusè et valdè inæqualitèr sinuato-dentata, 3-pollicaria, lobis basis latis, rotundatis, integrioribus, longiùs breviùsve petiolata, tenuia, utrinquè pubescentia, parcè ciliata, subtùs grossiusculè nervoso-venosa et reticulata, venis extimis subglanduloso-incrassatis dentes obtusè terminantibus, basi obsoletè 5—7-nervia; *superiora* ternata, brevè petiolata: *foliolum* intermedium ovatum, caudato-acuminatum, sinuato-dentatum, basi rotundatum vel cordatum, magnitudine varians, aliquandò inferiora folia formâ æquans; *lateralia* lanceolata vel ovato-lanceolata, inæquilatera, intermedio pluriès minora, integrioraque, sæpè pollicaria; *summa* subsessilia, ternata, ferè linearia. Petioli pubescentes, canaliculati, graciles, *inferiores* 2—3-pollicares, *superiores* sensìm breviores. Panicula terminalis, corymbosa, super foliorum par supremum elevata, ovalis, pubescens, *pedunculis* oppositis, bifidis, decussantibus, ½-pollicaribus, *bracteas* foliaceas, lineares patentes, elongatas æquantibus. Flores parvi, albi, roseo tincti, fasciculati, (solitarii in bifurcationibus pedunculorum,) hermaphroditi, insidentes *pedicellis* capillaceis, basi suffulti *bracteolis* linearibus, ciliatis, subinvolucriformibus.

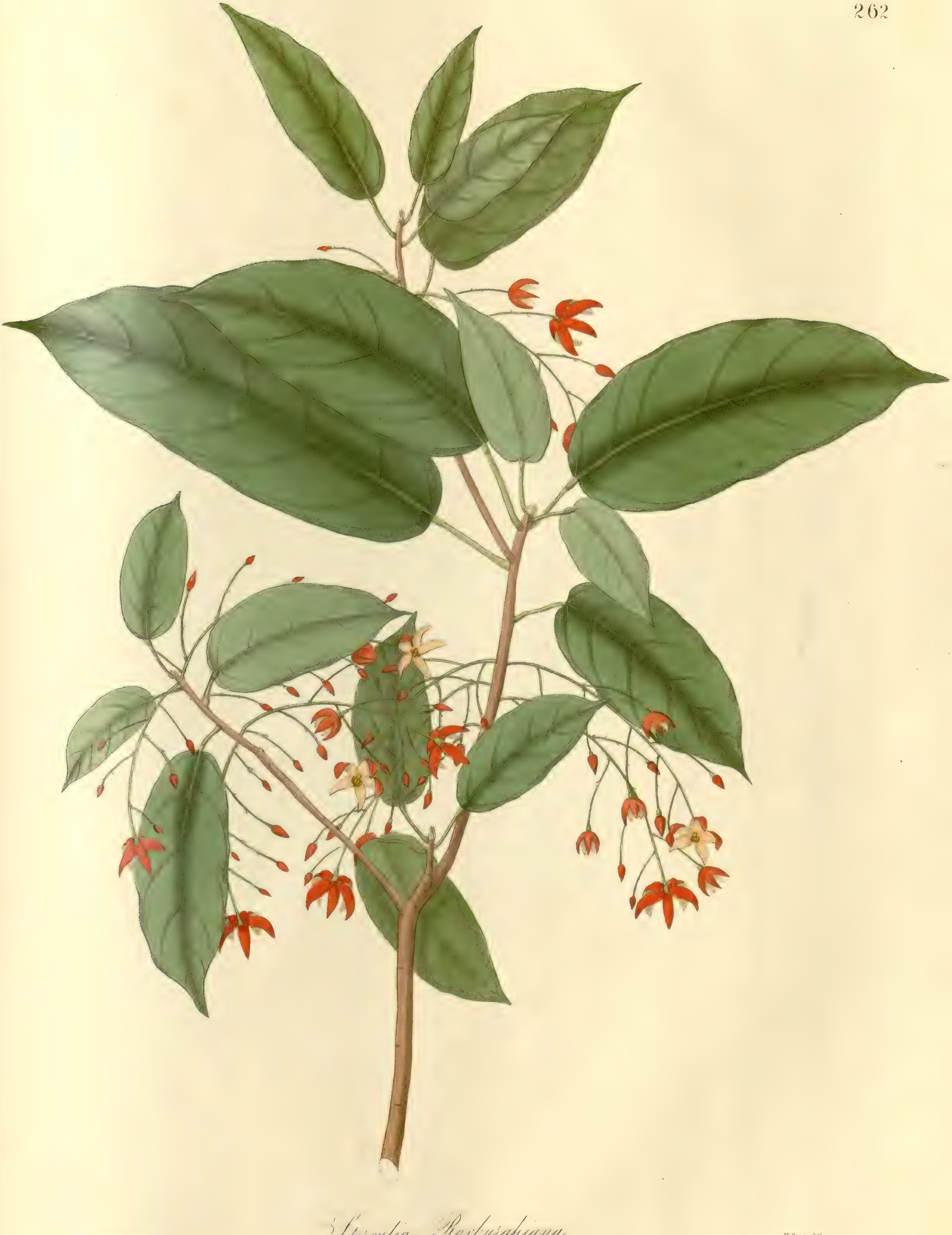
Valeriana Wallichii, Decand. loc. cit. *V. villosa*, Wall. Cat. n. 431.
Habitat ad agrorum margines et in fissuris rupium ad Thoka Napaliæ, florens Martio. In montibus valli Deyræ confinibus, 1825. Ad Srinaghur (Kamrup). In montibus Sillet (Gulielmus Gomez).
Nomen (omnium specierum) in Napalia, *Chamaha*.

Radix cylindrica, 2-pollicaris, usquè ad digitum minimum crassa, valdè fœtida, emittens *fibras* plurimas carnosas, crassas, longas, rufescentes. Caules sæpiùs 3—5 ex eadem radice, erecti, graciles, levissimè angulosi, simplicissimi, villosuli, pedales, supernè nudi et (tota planta uti interdùm) purpurei. Folia subcarnosa, pube brevi mollia, pallida, aliquandò purpurascentia, subtùs nervoso-reticulata; *radicalia* plura terræ laxè incumbentia, cum infimis caulis longè petiolata, ovato-cordata, obtusa, obtusè sinuato-dentata, nunc tantùm crenulata, lobis basis obtusis, rotundatis; *caulina* paribus paucis, remotissimis opposita, ternatìm secta, subsessilia; *foliolum intermedium* lanceolatum, denticulatum, ½-pollicare, *lateralia* minima, cuneiformi-lanceolata; par unum alterumve supremum indivisum vel trisectum, lineare. Petioli carnosi, sulcati, villosi, inferiores foliis triplò quadruplò longiores, superiores iisdem breviores. Corymbus terminalis, apice caulis elongati gracili longè pedunculatus, fastigiatus, densiflorus, diametro 2—3-pollicari, trichotomus, ramificationibus puberulis bis terve dichotomis, purpurascentibus, inferioribus ferè pollicaribus. Bracteæ oppositæ, lineares, unguiculares, villosæ, basi subconnatæ. Flores parvi, inodori, ex albo erubescentes, ternati cum solitario in bifurcatione; *pedicelli* instructi *bracteolis* longis, alternantibus, lineari-lanceolatis, florem longitudine æquantibus, involucrum ferè mentientibus. Corollæ *tubus* simplex et ecalcaratus, brevis, ampliatus in *limbum* 5-fidum, subæqualem. Stamina 3; *antheræ* albæ. Ovarium complanatum, striatum, villosulum. Semina papposa.

Nardostachys grandiflora, Decand. loc. cit. p. 624. *Fedia grandiflora*, Wall. MSS. *Valeriana Jatamansi*, Ejusd. Cat. n. 431. Lamb. Cinch. p. 180. c. tab.?
Incolit alpes Himalayæ ad Gossain Than. Kamoun (Robertus Blinkworth). Srinaghur (Kamrup).

Radix cylindrica, crassitie pennæ anserinæ, *fibras* emittens longas et filiformes; *collum* elongatur et ampliatur in basin plantæ nunc duplicem triplicemve, cylindrico-oblongam, erectam, 3—5—7-pollicarem, digitum minimum crassam, carnosam, laxè indutam stratis aliquot contiguis telæ fibroso-reticulatæ, pallidè ferrugineæ, aridæ, demùm obliteratæ. Caulis erectus, indivisus, palmaris, pedalis, vel 14-pollicaris, cylindricus, crassiusculus, levitèr lineatus, salvo apice obsoletè quadrangulari sulcisque duobus oppositis cano-villosulis glaber, pallidus, paucifolius, supernè nudus. Folia *radicalia* 4—6 erecta, oblongo-spathulata, vel oblongo-lanceolata, magnitudine varia, palmaria, 8—10- quin 12-pollicaria, caule breviora, acuta, nunc attenuato-subacuminata, integerrima, deorsùm valdè attenuata in *petiolum* planum, marginatum, striatum, basi dilatatum, cum reliquis imbricantibus et quasi vaginantibus caulem referentibus; membranacea, pallida, glabra, subtùs nervis gracilibus parallelis, insertione distantibus, apicem versus 5—7-nervia, venis tenuissimis, reticulatis. Folia *caulina* paribus duobus remotis, nunc modò unico opposita, erecto-patula, basi marginibusque pubescentia, cuneato-lanceolata, 3—4-pollicaria, sessilia, basi brevitèr vaginantia; superiora breviora et latiora, interdùm ovata, vaginâ brevissimâ vel nullâ; aliquandò tertium adest par 2 minimum e cujus basi decurrunt sulci caulis villosi. Corymbus terminalis, erectus, ovato-oblongus, 3—6-pollicaris; *pedunculi* paribus 2 vel 3 oppositi, quadrangulares, ferè 4-alati, villosi, 1—2—3-pollicares, graciles, elongatione inflorescentiæ remotiusculi, apice simplici, nunc bifido gerentes fasciculum parvum, globularem, involucratum *florum* magnorum, dilutè roseorum, sessilium, inodorum. Bracteæ magnæ, unguiculares, ovatæ, acutæ, membranaceæ, albicantes, nervis parallelis viridibus capillaceis, extùs basique villosulæ; 2 infra fasciculum majores, involucriformes; et 2 vel 3 infra singulum florem istis angustiores et breviores, oblongæ. Calyx divisus in *lacinias* 5 ovatas, acutas, ciliatas, venulosas, villosulas, patentes. Corolla infundibuliformis, lævis, ½-pollicaris; *tubus* calyce multò longior, levitèr compressus, basi hinc protrusus in processum parvulum obsoletumque, brevissimum, calcariformem, supernè sensìm ampliatus in *limbum* patentem, ferè dimidiò breviorem, 5-fidum; *lobi* ovato-rotundati, subæquales; *faux* pervia et nuda. Filamenta 4 capillaria, villosa, exserta, longitudine limbum vix superantia; *antheræ* magnæ, ovatæ, glabræ, basi bilobæ. Ovarium compressum, ovatum, villosum, lineas 2 longum, sessile, 1-loculare, continens *ovulum* pendulum; *stylus* filiformis pubescens, vix stamina æquans; *stigma* obtusum.

This noble species is very like the celebrated Spikenard, *Valeriana Jatamansi* of Sir W. Jones, now formed into a new genus by Professor Decandolle, and called by him *Nardostachys*. It differs however in the size as well as the structure of its flowers, and in the shape of its leaves. The root resembles that of the Indian Spikenard; but it is much larger, and its smell is far more agreeable.



Sterculia Roxburghiana

[illegible] M Gauci lith.

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Valeriana Hardwickii.

hnupersaud d.

Printed by Graf & Soret

M Gauci lith

Triplostegia glandulifera, Decand. loc. cit. p. 462. Wall. Cat. n. 436.
Crescit in alpibus Himalayæ ad Gossain Than, florens Augusto, fructifera Octobre.

Radix longa, gracilis, pennam columbinam crassitie haud excedens, deorsùm attenuata, exserens fibras frequentes, capillaceas. Caulis gracilis, erectus, a palmari ad pedalem altitudinem attingens, obsoletè quadrangularis, secus latera 2 opposita levissimè sulcatus, indivisus, vel *ramos* paucos, oppositos, simplices emittens, obsitus pubescentiâ brevi, canâ, villis intermixtâ longiusculis, articulatis, terminatis glandulâ glutinosâ ; basi foliosus, apice ferè nudus. Folia ad inferiorem caulis partem approximata, opposita, patentia, ovato-lanceolata, obtusiuscula, inæqualitèr et acutè dentato-serrata, 2-pollicaria, deorsùm attenuata integra vel pinnatifida, interdùm oblonga, profundè pinnatifida, præprimis caulina quæ sunt 3—4-pollicaria ; suprà pubescentia, subtùs secus costam nervosque gracillimos obliquos, venasque villoso-pilosula ; *laciniæ* oppositæ vel alternæ, ovatæ, lanceolatæ vel oblongatæ, inæqualitèr et acutè inciso-serratæ, acutiusculæ, decurrentes. Caulinorum foliorum par unicum vel duo, parva, remota, serrata, subsessilia, integra vel pinnatifida. Petioli pollicares bipollicaresve, a foliorum basi decurrente marginati, suprà levitèr sulcati. Corymbus terminalis, 6-pollicaris, demùm elongatus, ovatus, trichotomus, ramis ter quaterve dichotomis ; omnes partes villoso-viscosæ. Bracteæ infra divisuras lineari-lanceolatæ, serratæ, inferiores foliaceæ. Flores valdè parvi, albi, brevè pedicellati, ternati, cum sessili in bifurcatione extima. Involucrum duplex calycem hypogynum mentiens, una cum calyce persistens ; *exterius* oblongum, profundè 4-partitum, obtusè 4-carinatum, interius occultans, laciniis erectis adpressis, lineari-lanceolatis, rostrato-subrecurvato-acutis, viridibus, intùs canaliculatis glabris, extùs carinatis et conspersis setis copiosis patentibus, glandulâ glutinosâ oblongâ fuscescente terminatis ; *interius* monophyllum, tenue, membranaceum, oblongum, levitèr complanatum, ovarii formam referens idemque omninò amplectens, intùs læve, extùs costatum nervis 8 viridescentibus, pubescentibus, subcarinatis, apice obsoletè productis, fauce subtruncatâ, contractâ, glanduloso-ciliatâ, irregularitèr 8-dentatâ. Calyx minimus, ovarium coronans, 4-fidum ; *laciniæ* patentes, lanceolatæ, acutæ. Corolla infundibuliformis, involucro exteriore duplò ferè longior, extùs pubescens punctisque glandulosis notata ; *tubus* brevis, angustissimus, simplex et ecalcaratus, ampliatus in *limbum* æqualem, 5-fidum, *lobis* ovalibus, obtusis ; *faux* majuscula, pervia. Stamina 3 e basi tubi ; *filamenta* capillacea ; *antheræ* erectæ, subexsertæ. Ovarium læve, oblongum, compressiusculum, 1-loculare, 1-sporum, ovulo pendulo. *stylus* teres, longitudine circitèr staminum, deciduus ; *stigma* carnosum, clavato-capitatum. Utriculus tenuissimus, membranaceus, subtransparens, lævis, oblongus, terminatus rostro gracili, tereti, subæquante, cujus apici adfixus est calyx emarcidus 4-dentatus, paullisper auctus ; inclusus involucris parùm auctis, exteriore 4-carinato, interiore 8-carinato. Semen oblongo-cylindricum, læve, utriculo angustius, ex ejus vertice pendulum ; structura interior vix non ut in *Valeriana rubra* Gærtn. Carp. vol. 2. p. 35. t. 86.

The structure of the flower at once distinguishes this genus from all the other members of *Valerianeæ*, to which family it undoubtedly belongs. Neither the root nor the herb has any peculiar smell in the fresh or dried state. The whole plant is covered with a clammy pubescence. The leaves vary so much that I was at first inclined to consider them as belonging to two different species, being sometimes nearly entire, at others deeply pinnatifid or almost pinnate, or pinnatifid only at their base ; but I have since ascertained that they furnish not even marks by which to distinguish varieties of our plant.

Plate CCLXIII. Fig. 1. Flower. 2. Corolla, opened. 3. Pistil. 4. Ripe seed. 5. 6. The same, dissected. 7. Embryo.

THALICTRUM ROTUNDIFOLIUM. Tab. 264.

Thalictrum rotundifolium, Decand. Syst. Nat. Regn. Veg. vol. 1. p. 185. Ejusd. Prodr. p. 15.
Habitat in Napalia, florens sub pluviis.

Planta pedalis bipedalisve erecta, undique conspersa villis brevibus, hyalinis, septatis. Radix constat fibris longis, fasciculatis, cylindricis, fibrilloso-ramulosis. Caulis gracilis, teres, integer, rectus, basi ipsâ circumdatus tegmine arido setoso-fibroso demùm evanido. Rami pauci, alterni, nudiusculi vel subfoliosi, breves, erecto-patentes. Folia pauca subradicalia et ad inferiorem caulis partem alterna, patentia, orbiculato-cordata, 3—4-pollicaria, obtusissimè sinuato- 7—9-loba, lobis brevibus, rotundatis, inæqualitèr latiusculè et obtusè dentatis, sinûs basis profundi et angusti, lateribus rotundatis subimbricantibus, suprà pilis brevibus scabriuscula, subtùs mollitèr villosula, radiatim 7—9-nervia, nervis gracilibus extrorsùm ramosis, ad marginem excurrentibus, venisque elegantèr reticulatis exstantibus ; *superiora* et *ramea* breviùs petiolata et minora ; *floralia* parvula, subsessilia, minùs rotundata, subinciso-lobata. Petioli erectiusculi, teretes, canaliculati, graciles, inferiores foliis sæpè dimidiò vel semel longiores, superiores iisdem breviores, tandemque brevissimi. Stipulæ oppositæ, lanceolatæ, subdimidiatæ, erectæ, subpersistentes, pilosulæ, apice fimbriato-laciniatæ, bilineares. Flores ratione staturæ plantæ majusculi, ad apicem caulis ramorumque tenuitèr subcorymbosi, nunc obsoletè umbellati, albi, suffulti pedunculis longiusculis, tenerrimis, filiformibus, pubescentibus, 2—3-pollicaribus. Bracteæ ad basin pedunculorum (foliola ista floralia) nunc approximata et quasi fasciculata. Sepala 5 semiunguicularia, lanceolato-cuneata, acutiuscula, glabra, patentissima, parallelè venulosa. Filamenta circitèr 25 patentia, capillacea, sepalis paullò breviora ; *antheræ* lineari-oblongæ, erectæ, utrinque longitudinalitèr dehiscentes. Ovaria staminibus numerosiora brevioraque, glabra, subulata, conferta supra receptaculum convexo-elevatum, 1-locularia, 1-spora, ovulo pendulo ; *styli* cylindrici, breves, apice papilloso-villosulo recurvati ; *stigmata* acuta. Carpella subulata, brevitèr stipitata, stylo coronata.

Plate CCLXIV. Fig. 1. Flower, dissected. 2. Carpellum. 3. The same, divided transversely.

UNONA UNDULATA. Tab. 265.

Frutex foliis oblongis, attenuato-acuminatis, undulatis, pubescentibus, subtùs glaucescentibus; pedunculis lateralibus, elongatis, unifloris, bracteolatis; sepalis demùm increscentibus subfoliaceis, petalis lineari-lanceolatis, undulatis, subæqualibus, patentibus.

Uvaria undulata, Roxb. Hort. Beng. p. 43.

Habitat in Sillet, florens Martio. In Chittagong, Roxburgh. In horto botanico Calcuttensi floret tempore calido.

Frutex magnus, erectus, ramosus. Rami graciles, teretes, recti, patentes, calloso-punctati supernè novellique pubescenti-subvillosuli. Folia alterna, approximata, bifariè patentia, demùm subdependentia, elongato-oblonga, attenuato-acuminata, membranacea, undulata, basi obtusa, aliquandò subretuso-rotundata, 6—8-pollicaria utrinque pilis raris adpressis conspersa, suprà nitida, subtùs glaucescentia et opaca, costâ nervisque obliquis parallelis gracilibus, tenuissimè reticulata; novella tomento fulvo nitente obtecta. Petioli brevissimi, cylindracei, crassiusculi, adpressè villosuli, suprà levitèr sulcati. Flores pauci, magni, inodori, laterales, ad apicem ramulorum sparsi, laxè nutantes. Pedunculus gracillimus, filiformis, petiolo pluriès longior, bipollicaris, pubescens, *bracteas* aliquot gerens alternas, lineari-lanceolatas, seriùs deciduas. Sepala 3, triangulari-lanceolata, acuta, brevia, utrinque sericeo-villosa, post anthesin increscentia, demùmque ferè foliacea, unguicularia ad pollicaria. Petala 6, oblongo- vel lineari-lanceolata, acuminata, valdè undulata, crassiuscula, sericeo-villosa, divergenti-patentia, calyce initio multò longiora, 2-pollicaria, ex viridi-flavescentia, demùm omninò flava, 3-pollicaria et ultrà; interiora 3 paullò angustiora. Genitalia conferta in formam hemisphæricam, brevem. Stamina valdè numerosa, brevissima, apice obliquè truncata. Fructus haud visus.

As there is still a doubt whether Dunal's *Xylopia undulata* is a real *Unona* or not, I have retained the specific name given to our shrub in Roxburgh's *Hortus Bengalensis*. In my Catalogue of the Honourable Company's Herbarium I call the species *Unona Roxburghiana* (n. 6423.), which name I propose for adoption, in case the old one should require to be changed. I have never seen the fruit, but the habit of the plant is so much like that of the genus to which I have referred it, that I have not hesitated to remove it thither. I am not quite certain whether the Sillet specimens may not belong to a distinct though nearly allied species, remarkable on account of the singular manner in which the sepals enlarge, immediately after the petals have fallen off. I cannot allow this opportunity to pass, without rendering my thanks to Dr. Blume for the great advantage I have derived from his excellent *Flora Javæ* in the arrangement of the plants belonging to the difficult family of *Anonaceæ* in the herbaria under my charge.

Plate CCLXV. The detached flower exhibits its state of perfect expansion immediately before the petals fall off.

GUATTERIA SESQUIPEDALIS. Tab. 266.

Foliis valdè approximatis, longissimis, oblongis, acuminatis, lævibus, lucidis, subtùs argenteis; pedunculis subaxillaribus, subsolitariis, unifloris; petalis interioribus in fornicem conniventibus; baccis ovato-oblongis, subsessilibus.—*Colebr. MSS.*

Guatteria sesquipedalis, Colebr. MSS. et Icon. Pict. Ined.

Habitat in montibus Sillet vicinis, florens fructiferaque mensibus Aprilis et Maii (Colebrooke). Specimina sicca et plantas viventes in Hortum Calcuttensem misit Franciscus De Silva.

Arbuscula cortice saturatè fusco. Rami cylindrici, levissimè et obsoletè subflexuosi, uti omnes plantæ partes glabri. Folia valdè approximata, subbifariè patentissima, brevè petiolata, longissimè oblonga, marginibus integerrimis, parallelis, attenuato-acuminata, basi acutiuscula, coriacea et firma, lævia, 12—16-uncialia, suprà atroviridia lucida, subbullato-rugosula, subtùs argenteo-pallida, opaca, tactu mollissima, costâ valdè elevatâ, nervis subtransversalibus intra marginem conspicuè arcuato-anastomosantibus, venis distantibus reticulatis; *recentia* conduplicata, puberula, erubescentia. Petioli cylindrici, breves, unguem longi vel parùm ultrà, rugosi, punctati. Flores solitarii vel geminati, supra-axillares, brevè pedunculati, e viridi flavicantes, inodori. Bracteæ 2 vel 3 parvulæ, ovatæ. Sepala 3 ovata, acuta, persistentia. Petala 6 lanceolata, acuta, sessilia, pollicaria; *exteriora* 3 patentiuscula, parùm majora basique crassiora; *interiora* angustiora, basi concaviuscula, sursùm conniventia et secus margines subcohærentia in copulam subpyramidatam basi sinubus tribus hiantem. Antheræ valdè numerosæ, sessiles, oblongæ, apice dehiscentes. Ovaria circitèr 20; *styli* cylindrici antheris longiores; *stigmata* obtusa, subcurvata. Carpella plura, subsessilia, oblongo-ovata, lævia, acuta, glabra, ex aurantiaco crocea, baccata, magnitudine ferè fructûs *Oleæ sativæ*. Semen solitarium, figurâ baccæ. Testa intùs obtecta processibus (endopleuri) densis, lamellosis, perispermi fissuras intrantibus. Perispermum semini conforme, corneo-durum, sulco circumdatum profundo, ferè bipartibile, valdè ruminatum. Embryo minutus, cotyledonibus rotundatis, radiculâ cylindricâ, inferâ.—*Colebr. MSS.*

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Thalictrum rotundifolium.

Gorochand del.

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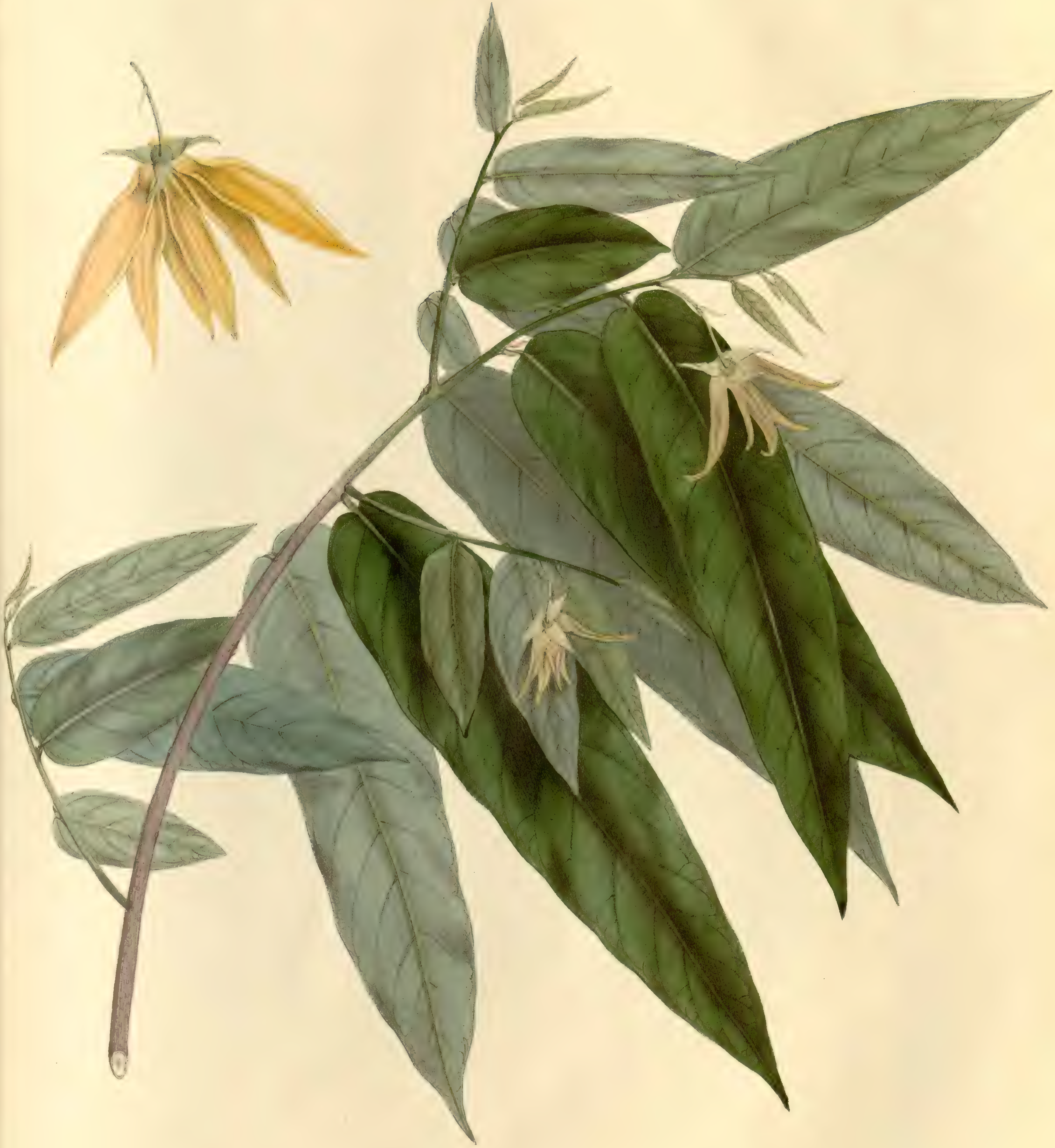
M. Gauci lith.



Unona undulata.

Vishnupersaud del.

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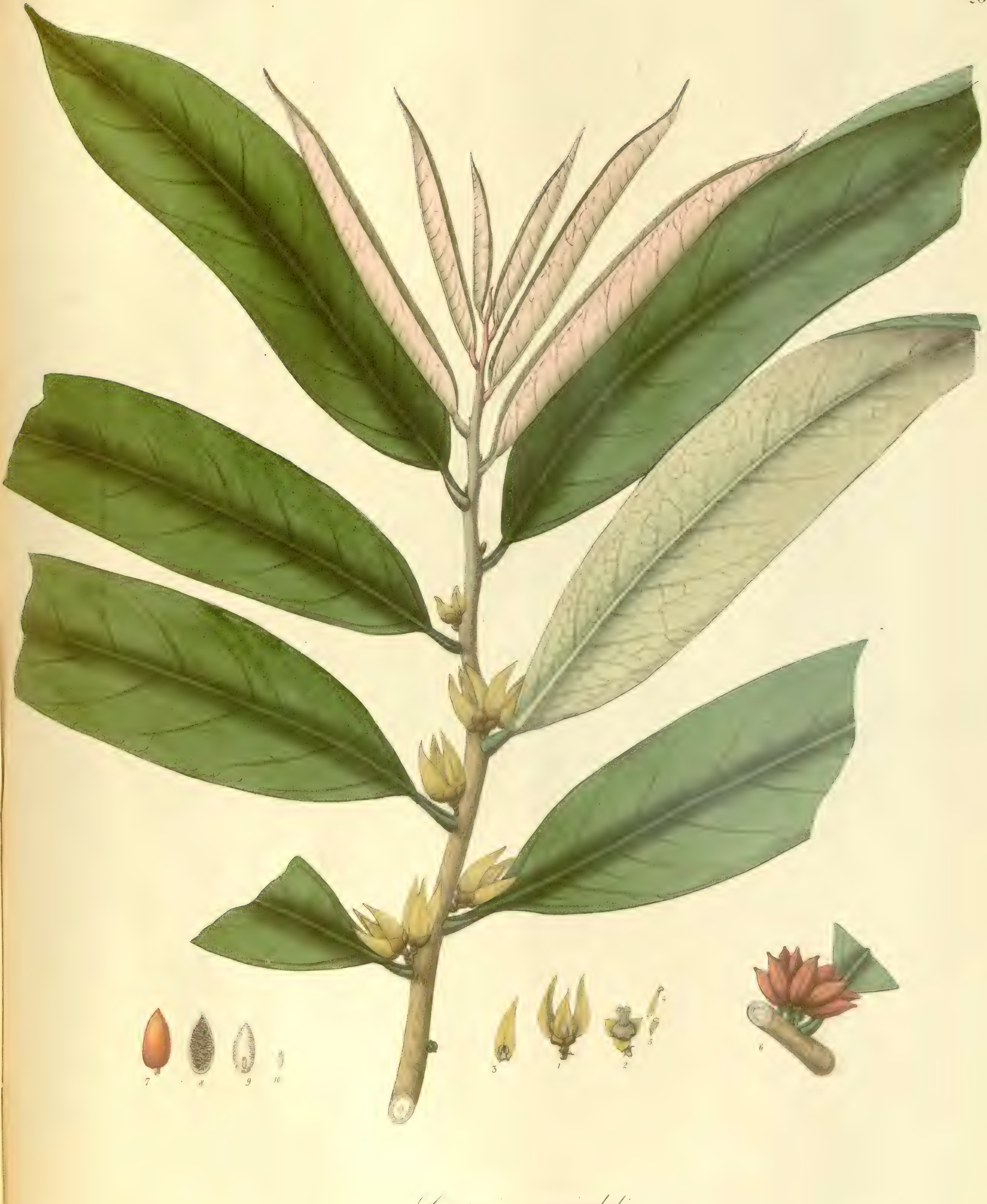
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Gualteria sesquipedalis.

M. Gauc.

I am indebted to my revered friend and patron Mr. Colebrooke for the description and drawing of this new species of *Guatteria*. I had a living plant of it on board the ship in which I came to Europe, which blossomed during the voyage, and is now at the Botanic Garden at Kew.

Plate CCLXVI. Fig. 1. A flower. 2. Calyx and pistils. 3. A detached petal. 4. Stamen, detached. 5. Pistil. 6. Cluster of ripe berries. 7. A separate berry. 8. Inside of the testa, lined with lamellate processes. 9. Longitudinal section of the perisperm in the place of its furrow. 10. Embryo.

COLQUHOUNIA VESTITA. Tab. 267.

Foliis ovato-oblongis, valdè attenuato-acuminatis, subtùs ramulisque densissimè cano-tomentosis.

Colquhounia vestita, Wall. Tentam. Flor. Napal. vol. 1. p. 14. Bentham Synopsis Labiatarum in Bot. Regist. vol. 15. fol. 1292.

Habitat in monte summa Napaliæ Sheopur dicta, et in alpibus Gossain Than Emodi napalensis, florens sub pluviis.

The character which I have given above comprises all the points in which this species differs from *Colquhounia coccinea*, which it resembles perfectly in stature and habit. It is almost white, especially on the underside of the leaves, the ends of the branches and calyxes, owing to very dense soft and stellate tomentum.

COLQUHOUNIA ELEGANS. Tab. 268.

Foliis ovatis, acutis, dentatis, suprà pubescentibus, subtùs villosis, floribus in ramulis novellis subracemosis (corollis aurantiacis, sanguineo-punctatis).

Observavi ad apicem jugi Taong Dong dicti, prope Avam, florentem Novembre 1826.

Frutex 8—10-pedalis, parcè ramosus, subscandens, ramis elongatis, subquadrangularibus villosulis. Folia opposita, patentia, brevissimè petiolata, ovata, acuta, obtusiusculè dentata, utrinque mollissima, suprà pubescentia, subtùs tomentosa. Flores in ramulis novellis brevibus foliolosis fasciculato-racemosi, aurantiaci, punctis frequentibus sanguineis conspersi, pollicares, ferè sessiles. Calyx ovatus, 5-dentatus, cano-villosus; *dentes* lanceolati, acuti. Corolla, stamina pistillumque ut in *Colquhounia coccinea.*

I only saw one single shrub of this elegant species, at the very top of the mountain called Taong Dong, near Ava. Like the preceding species it resembles very much the type of the genus, *Colquhounia coccinea*, published in the Linnean Transactions; nor have I the means of giving a good mark by which to distinguish it, except the colour of the flower, which, instead of being pure red, is orange, dotted with crimson specks.

UVULARIA UMBELLATA. Tab. 269

Uvularia umbellata, Wall. in Act. Soc. Asiat. vol. 13. p. 379.

Habitat in montibus Napaliæ, florens Aprili, Mayo.

Plate CCLXIX. Fig. 1. Flower. 2. The same, dissected.

LIGUSTRUM NAPALENSE. Tab. 270.

Ligustrum napalense, Wall. in Roxb. Flor. Ind. vol. 1. p. 151.

Habitat in Napalia, florens mensibus Aprilis—Junii, fructiferum Decembre et Januario.

The late Sir J. E. Smith informed me, in a letter dated the 6th of March 1820, that he considered this tree as identical with Thunberg's *Ligustrum japonicum.* I found another species in fruit on Taong Dong, near Ava, which resembles our plant very closely, but which may perhaps be distinguished in the following manner:

L. pubescens (Wall. Cat. Herb. n. 1742); foliis lanceolatis acutiusculis, subglabris; ramis ecallosis, apice pubescentibus, baccis oblongis, pruinosis, paniculatis.

Roxburgh's *Ligustrum laurifolium*, Hort. Beng. p. 3, of which he has left no description or drawing, is probably my *Chondrospermum smilacifolium*, Catal. Herb. n. 2837, described by me under the name of *Chionanthus? smilacifolia* in Roxburgh's *Flora Indica*, vol. 1. p. 108.

Plate CCLXX. Fig. 1. 2. Flower. 3. Calyx. 4. Corolla. 5. Part of a berry-bearing panicle. 6. Detached berry. 7. 8. The same, divided in two ways.

AVICENNIA TOMENTOSA. Tab. 271.

Avicennia tomentosa Linn., Brown. Prodr. Flor. Nov. Holl. vol. 1. p. 518.

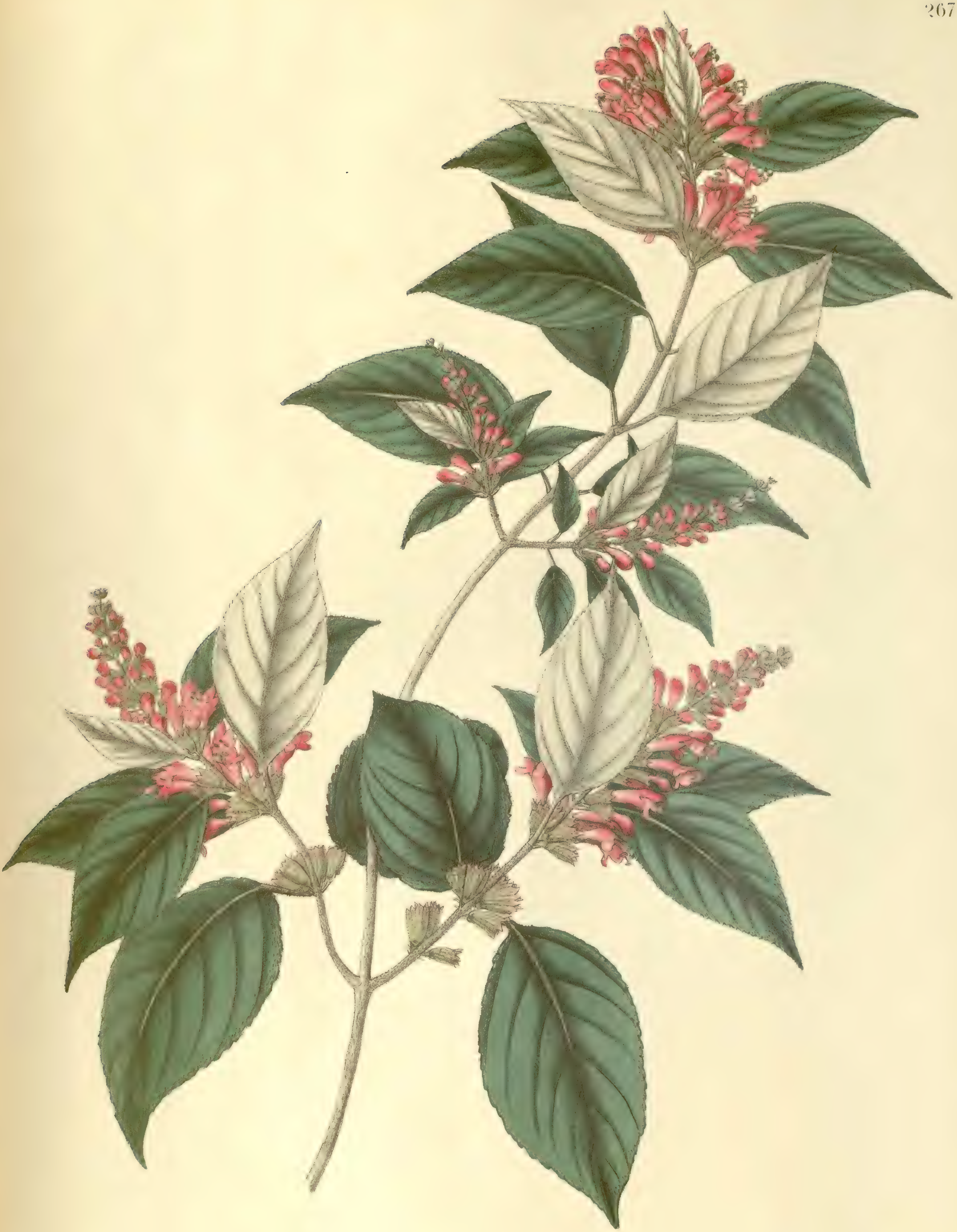
Oepata, Rheed. Hort. Mal. vol. 4. p. 95. t. 45.

Avicennia Oepata, Herb. Hamilt.

Crescit ad litora maris marginesque æstuariorum totius Indiæ, florens fructiferaque tempore calido et pluvioso. Ad ripas æstuarii fluminis Hoogly, Sunderbun dicti (Hamilton et ipse). In Penang et Singapur, 1822. Ad oras Martabaniæ, 1827. In Herbario Finlaysoniano.

Arbor magnitudine varians, nunc excelsa, nunc mediocris, modò arbusculæ staturam vix attingens. Rami cylindrici, fusco-canescentes, patentes. Folia approximata, patentia, opposita, ovalia, obtusa, integerrima, basi subattenuato-acuta, 3—4-pollicaria, coriacea, suprà lucida, subtùs mollia, incana vel flavicantia, obtectaque squamulis minutissimis, densè adpressis, costâ elevatâ, nervis tenerrimis intra marginem inæqualitèr arcuato-anastomosantibus, venisque capillaceis reticulatis, siccitate tantùm conspicuis. Petiolus semipollicaris, suprà levitèr sulcatus, sulco versus basin dilatato, cano-villoso, marginato, insertione lineolâ ad petiolum oppositi folii trans ramum excurrens. Panicula terminalis erecta, subbrachiata, palmaris, simplicitèr ramosa, constans florum parvorum, sessilium fasciculis remotiusculis bracteolatis; aliquando ramulus unus alterve oritur ex alis foliorum supremorum apice fasciculos paucos gerens. Pedunculi obsoletè quadrangulares, villosuli. Bracteæ infra divisuras paniculæ oppositæ, lineari-oblongæ, patentes, coriaceæ. Calyx sessilis, coriaceus, ovatus, 5-partitus; *laciniæ bracteolæ*que aliquot suffultientes ovatæ, obtusæ, ciliatæ, mox fuscescentes. Corolla flava, crassiuscula, campanulata; *tubus* amplus, calyce longior, sursùm *limbus*que 4-fidus villosus; *laciniæ* ovatæ, acutiusculæ, patentes, subæquales, postica levissimè fornicata. Filamenta 4 subulata, patentia, fauci perviæ inter lacinias inserta, iisdem breviora; *antheræ* ovatæ, crassiusculæ. Ovarium ovatum, densè villosum, 2-loculare, 4-sporum; *ovula* oblongo-cuneata, pendula ex apice axis compressè tetragonæ; *stylus* cylindricus, tubo parùm longior, villosus; *stigma* bifidum, acutum. Pericarpium obliquè ovatum, compressum, sesquipollicare, attenuato-acutum, styli basi persistente cuspidatum, densè et mollitèr cano-tomentosum, basi rotundatâ suffultum calyce bracteisque persistentibus, emarcidis. Integumentum simplex, coriaceum, tertiam lineæ partem crassum, intùs lævissimum, argenteo-nitens. Embryo maximus, coriaceo-carnosus, saturatè viridis, erectus, cavitatem omninò replens pericarpio formâ similis, basi concaviusculâ adfixus receptaculo parvulo, convexo, cujus vertici adhuc adhærent ovula tria sterilia, pendula, emarcida, membranacea, fusca. Cotyledones latissimæ, reniformi-cordatæ, crassissimæ, læves, nitidæ, integerrimæ, conduplicatæ, subinæquales, exterior obtusissima, interior acuta; lobi basis magni, rotundati, inæquales, imbricantes. Radicula longa et crassa, densissimè barbata lanugine albâ longâ et molli, obliquè inter cotyledones adscendens eosque apice adfigens, basi nudâ papillosa; *scapus* primùm nullus, sed mox, semine intra pericarpium germinante, elongatus, cylindricus, attenuatus, lævis; *plumula* diphylla.

The discovery of the singular structure of the fruit of this tree, as contrasted with that of the unimpregnated ovule, is due to Dr. R. Brown, who published it in his Flora of New Holland, the richest mine of discoveries and profound researches in natural history which has ever been offered to the world. It will be seen that the ovary contains four pendulous ovules; of these, one only becomes impregnated, and enlarges into a perfect erect seed; the other three continue in their original size and posture, but reduced to withered scales, which may be observed at the bottom of the cavity of the fruit, on one side of the small receptacle to which seed at first adhered. But there is a slight modification in the masterly account given by Dr. Brown, which he has done me the honour to point out, purposely that I might introduce it on the present occasion; namely, although the ovules are pendulous, and the

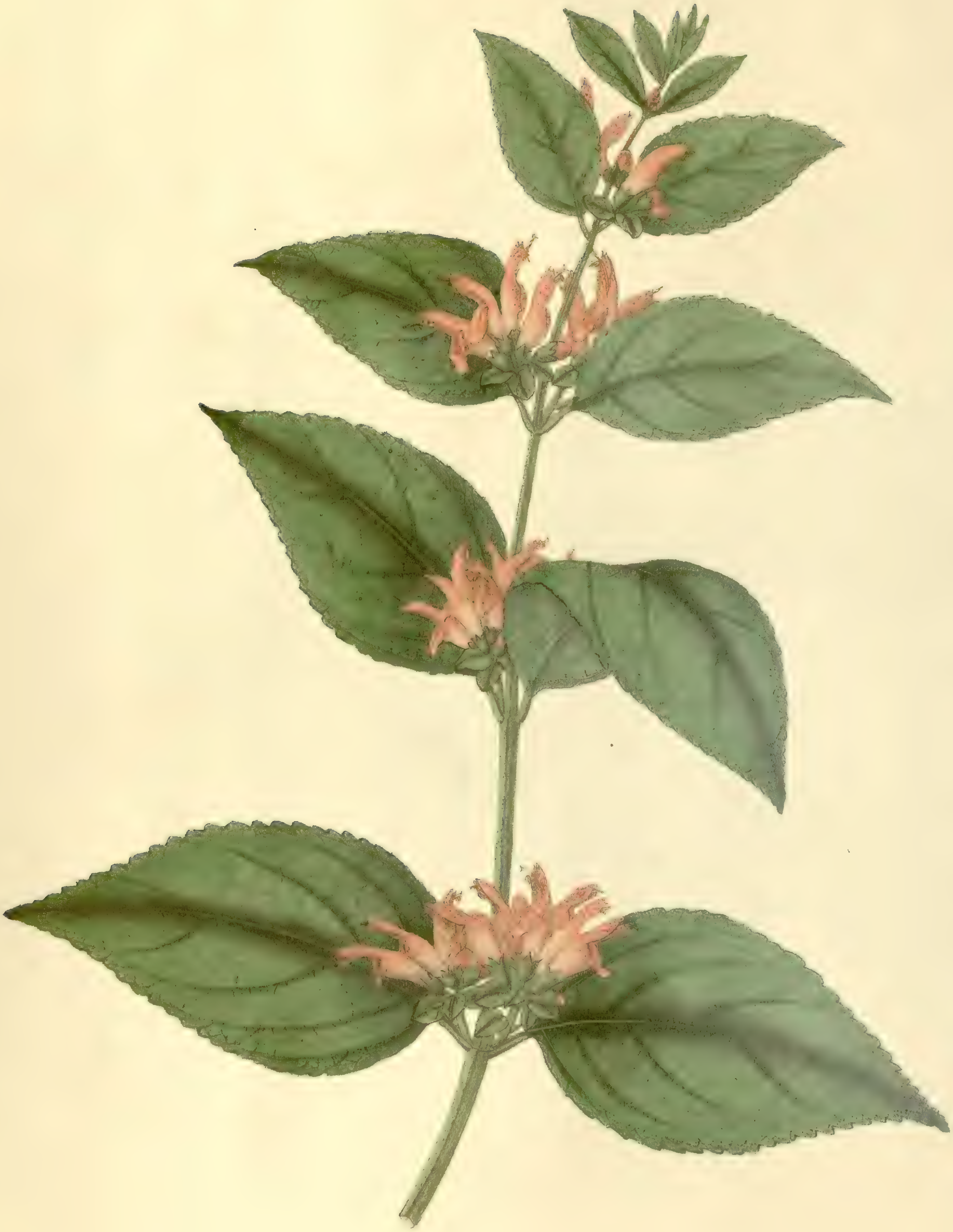


Colquhounia vestita

Grochaud del.

Printed by Graf & Soret 14 Newman St

M Gauci



Colquhounia elegans.

Vishnupersaud del

Printed by Graf & Soret

M Gauci lith

[illegible] del.

Uvularia umbellata.

M. Gauci lith.

Printed by Graf & Soret.

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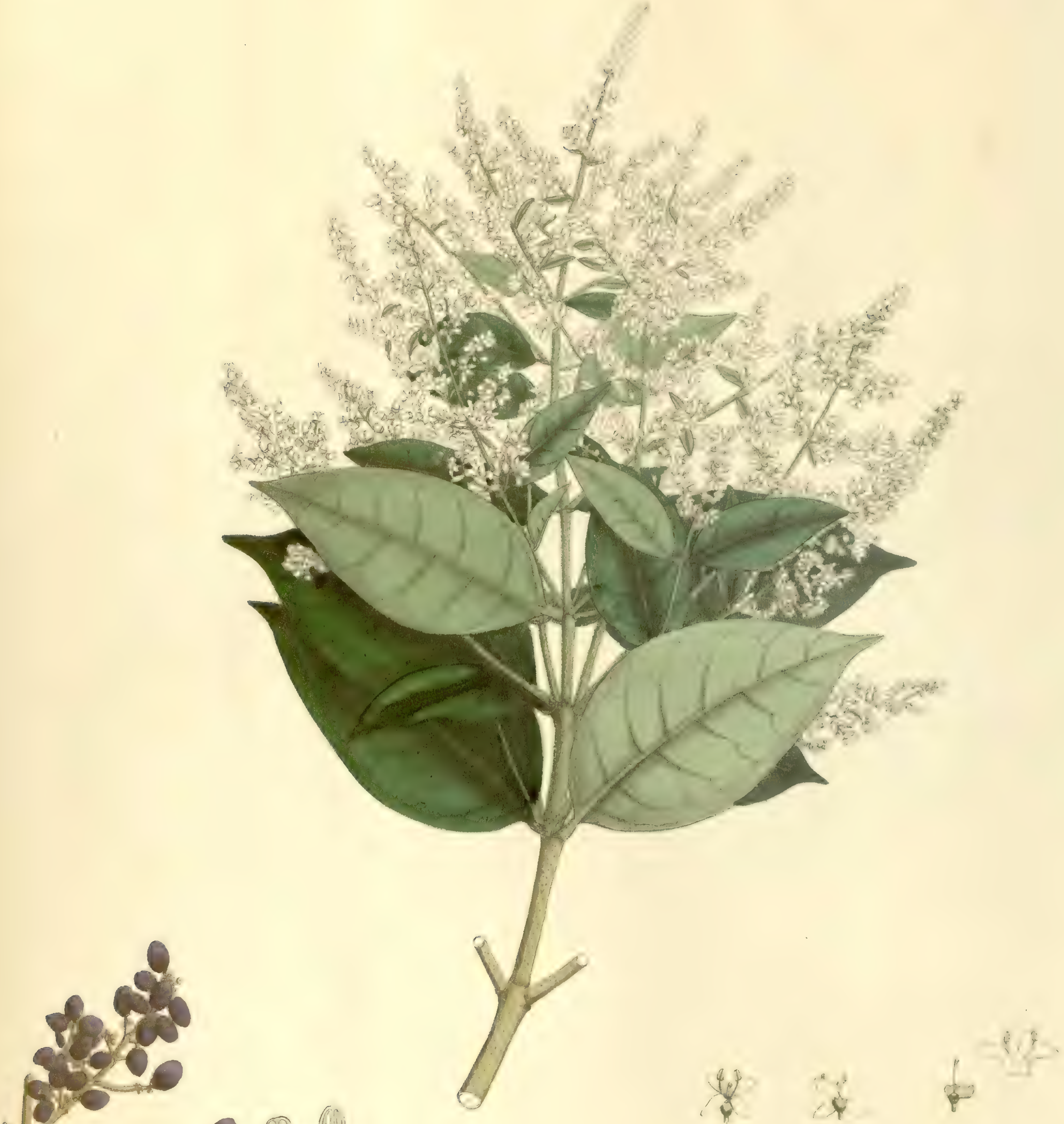

Ligustrum napalense.

Gorachand del.ᵗ

Printed by Graf & Soret

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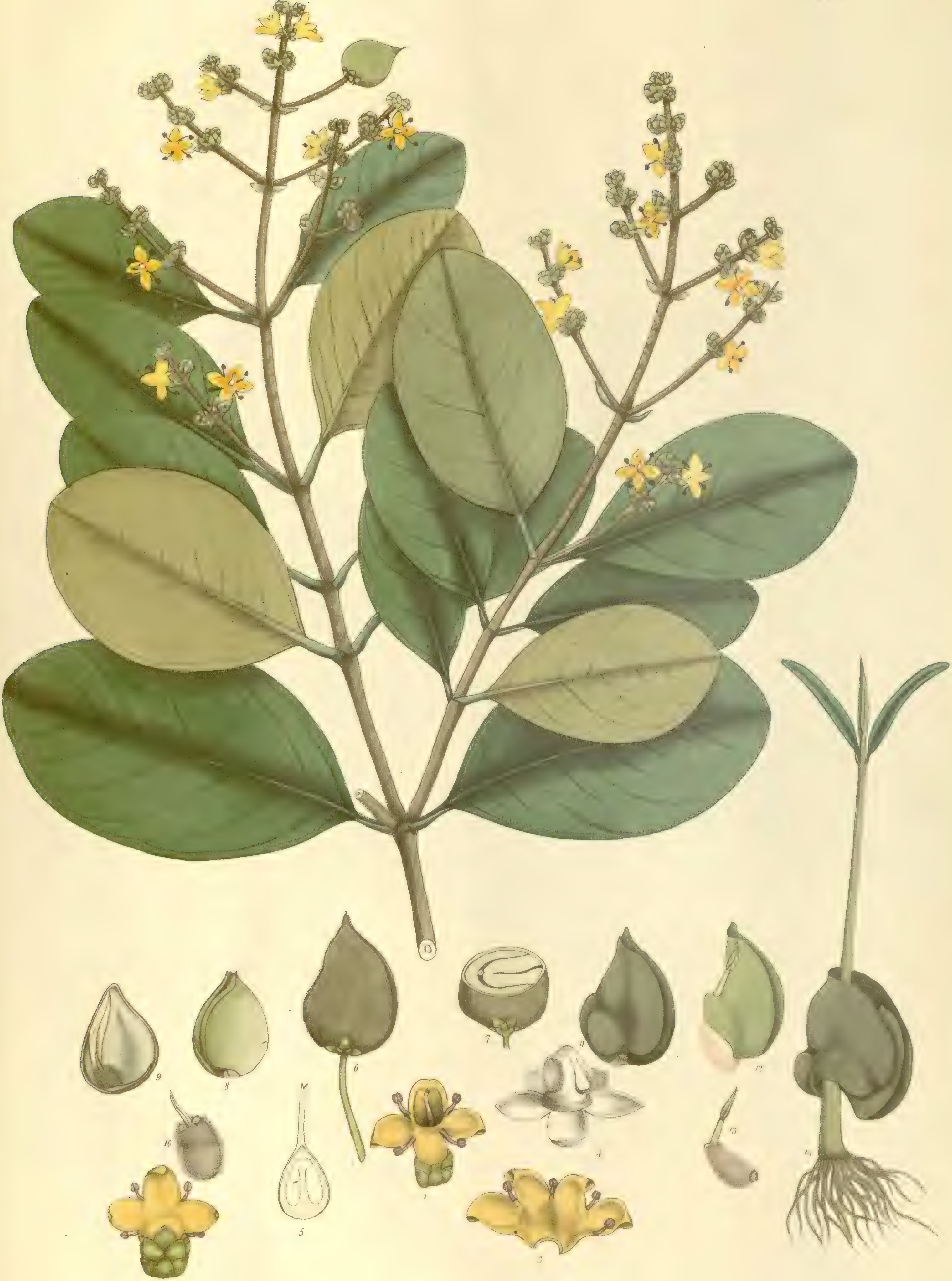
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Avicennia tomentosa.

Gerochaud del^t

M.Gauc. [illegible]

Printed by Graf & Soret

seed itself erect, yet no inversion takes place, but only an elongation upwards, the foramen of the testa (micropyle) being, as Dr. Brown supposes, situated at the lower or free extremity.

There is little doubt that Rumphius's *Mangium album* (Herb. Amboin. vol. 3. p. 115. t. 76.) is the same species as our tree, although so acute an observer as my late friend Mr. Jack thought differently, (Malayan Miscellanies, vol. 2. n. 7. p. 58).

The vitality of the seed is so great that it never fails germinating long before the fruit falls off; and it often happens that an infant plant is seen protruding its tender leaves and roots through the integument of the fruit while yet attached to the tree. A similar phænomenon frequently occurs in the fruit of *Brownlowia elata*, which ripened in the Calcutta Garden for the first time in September 1825. At the time I furnished the notices in the Botanical Register, vol. 17. n. 1472. on this fine tree, I had mislaid my carpological memorandums: having since found them, I introduce them here.

Humea elata. Capsula depresso-globosa, diametro transverso pollicari vel sesquipollicari, verticali semipollicari, crassa, dura et lignea, ferè drupacea, tomento incano-viridescente, brevissimo, denso, tenaci, extùs vestita, intùs lævis, unilocularis, bivalvis, suturâ parùm elevatâ e basi ad verticem depressum dehiscens; solitaria super calycem persistentem maturescit, fundo ejus lateralitèr inserta, ibique occultans stamina emarcida, imò ovarii ipsius vestigium cum stylo, nunc basi fisso: vel (teste Roxburghio) usque ad 5, sæpiùs verò 2 vel 3 maturescunt. Semen unicum (rarò 2 ex Roxb.) frequentissimè intra capsulam dehiscentem antequam dilabitur germinans, fructûs formâ, obtectum integumento duplici, exteriore spongioso, molli, interiore membranaceo tenuissimo. Embryo magnus, subtransversalitèr decumbens (in capsula saltem solitaria). Cotyledones valdè crassæ, subcordatæ, obtusæ, amygdalinæ, parùm inæquales, superficie externâ rugosulâ. Radicula crassa, cylindrica, centrifuga. Plumula minutissima.

Plate CCLXXI. Fig. 1. 2. Flower. 3. Corolla, opened. 4. Vestige of the ovary taken from the ripe fruit, showing the place of insertion of the ripe seed, and two of the withered ovules. 5. Section of the ovary before fecundation. 6. Ripe fruit. 7. The same, divided horizontally. 8. Seed. 9. The same, divided longitudinally, parallel to its sides. 10. Embryo before germination has commenced. 11. A germinating seed. 12. The same, showing the posture of the embryo, the outer cotyledon being removed. 13. The same, both the cotyledons having been removed, exhibiting the radicule, scape, and plumule. 14. An infant plant, with the cotyledons still attached.

WILLOUGHBEIA MARTABANICA. Tab. 272.

Cirrhifera scandens; foliis ovato-oblongis, acuminatis, parallelè nervosis; baccis globosis.
Habitat in provincia Martabaniæ ad Amherst et Moalmyne, fructifera mense Aprilis.

Frutex magnus, volubilis et scandens, omnibus partibus glaberrimus. Rami longi, cylindrici, dichotomi. Cirrhi laterales vel e dichotomia ramorum, lignosi, elongati, 6-pollicares, nunc longissimi, flagelliformes, 2-pedales, teretes, variè torti, ramulos emittentes breves recurvato-hamosos, teretes, uncinato-acutiusculos, pollicares, alternos, duobus infimis nunc oppositis, elongatione cirrhi remotos, basi suffultos bracteolâ obsoletâ, subulatâ, demùm evanidâ, lineolam insertionis linquente. Folia opposita, patentia, approximata, brevè petiolata, 5—7-pollicaria, ovato-oblonga, acuminata, integerrima, basi acutiuscula, suprà lævia, nitida, subtùs costâ elevatâ nervisque frequentibus, parallelis, gracilibus, venisque inter hos capillaceis reticulatis. Petioli cylindrici, suprà plani, unguem longi. Inflorescentia haud visa. Baccæ solitariæ in axillis foliorum delapsorum, (oppositæ in specimine nostro,) globosæ, diametri 3-pollicaris, magnitudinis circitèr fructûs aurantii, globosæ, rugosæ, flavæ, glabræ, basi aucta vestigio calycis immutati, suffultæ pedunculo brevissimo, columnari, crasso. Caro lineas 3 crassa. Semina numerosa ovalia, complanata, nidulantia in pulpa glutinosa, ex flavo-rubicunda.

I have not seen the flowers of this shrub. The structure of its fruit, which I was prevented from noting down at the time I found it, corresponded entirely with that of *Willoughbeia edulis* (Roxb. Corom. Plants, vol. 3. t. 77.), to which plant, indeed, our shrub comes very near. The presence of tendrils in this as well as in the above-mentioned species, is very remarkable among *Apocyneæ*. Dr. Blume long ago noticed them in his valuable *Bydragen*, p. 1024, and they seem to corroborate the generic difference between the two genera of Aublet, on which Schreber (Scopoli according to Sprengel,) founded his *Willoughbeia*. One of these genera, namely *Pacuria*, seems to have a tendency to produce similar tendrils, and is certainly nearly allied to, if not identical with, the genus to which our plants belong, and for which the name *Ancylocladus* might, if required, perhaps be applicable. I have found a plant at Singapur, without flower or fruit, which, from the presence of the tendrils, and the general habit, probably belongs also to this group, and which I have called *Willoughbeia coriacea* in the Catalogue of the Honourable Company's Herbarium, n. 1620. It has oval-oblong coriaceous leaves, ending in a short blunt acumen, with prominent parallel nerves underneath, and seems to differ from all the species enumerated by Dr. Blume.

RATZEBURGIA PULCHERRIMA.* Tab. 273.

Ratzeburgia pulcherrima, Kunth, Revision des Graminées, p. 487. t. 158.

Habitat prope ripam fluminis Irawaddi in collibus aridis subulosis ad Yenangheun et inter ruinas templorum ad Paghamew; vigens florensque mense Septembris.

While my account of this grass was in progress through the press, I was informed by Dr. Brown that it had been described and figured already in a Number of my valued friend Professor Kunth's splendid work on Grasses, which had just reached this country. The necessity of my adding any description is therefore superseded, and I have adopted the prior name given by M. Kunth for that of *Aikinia elegans*, engraved on the Plate which accompanied the preceding Number of this volume. The grass is, without a single exception, the most lovely and elegant of any I have ever seen; it is of a pale glaucous colour, and the crest of the outer glume has a pinkish tint. It delights in arid and exposed situations not far from the banks of the Irawaddi, among the hills near the petroleum wells at Yenangheun, and among the ruins of pagodas at Paghamew. The Plate has been engraved from a drawing made expressly for this work by my excellent friend Professor Lindley.

For the following generic character and observations relating to this grass I am gratefully indebted to my most honoured and esteemed friend Dr. Brown.

Ratzeburgia, Kunth Revis. Gramin. p. 487.—Spica articulata, rachi flexuosâ. Locustæ in singulo articulo 3. Duæ sessiles, per glumas superiores parallelo-contiguæ, bifloræ. Glumæ valvula inferior cartilaginea, dorso depresso nervoso scrobiculato, apice membranaceo bilobo; superior chartacea planiuscula lævis. Flosculi hyalini mutici; superior hermaphroditus univalvis enervis. Squamulæ hypogynæ 3, quarum duæ exteriores subcollaterales dilatato-cuneatæ retusæ bidentatæ; tertia interior triloba (pro palea superiore habita a Dom. Kunth). Stamina 3. Ovarium imberbe. Styli ad basin distincti, interjecto umbone. Stigmata coarctato-plumosa. Flosculus inferior neuter univalvis obsoletè binervis marginibus inflexis. Locusta tertia pedicello libero insidens, neutra, univalvis.—*Brown MSS.*

Gramen perpulchrum, humile, stoloniferum, glabriusculum. Culmi adscendentes, monostachyi. Folia brevia, rigidiuscula, plana, nunc conduplicata, obtusa, marginata, vaginâ compressâ, ligulâ imberbi, indivisâ.—*Brown.*

Obs.—Ratzeburgia may be readily distinguished from all other genera of *Paniceæ*, as I have defined that extensive tribe, in having at each joint of its rachis three locustæ, of which two are sessile, fertile, and without aristæ, while the third, which is merely rudimentary, consisting of a single valve, is supported on a pedicel entirely distinct from the rachis.

In most of these characters, indeed, it agrees with *Mnesithea* of Kunth (*Rottböllia perforata* of Roxburgh), which differs, however, in having the pedicel of its third, still more imperfect locusta, connate at both extremities with the rachis, and thus contributing to form the perforated joint, so remarkable in this genus. In *Mnesithea*, M. Kunth considers the upper valve of the glume as belonging to a third univalvular neuter flosculus,—an opinion which seems to be founded solely on its membranaceous texture, and which, if adopted, would exclude this genus from *Paniceæ*, as I have defined them,—a definition which M. Kunth certainly does not adopt, as he has included in his tribe of *Rottbölliaceæ* several genera belonging to *Poaceæ*, namely, *Lepturus, Oropetium, Psilurus,* and *Nardus.*

According to the view here taken of the structure of the two genera, *Mnesithea* would have nearly the same relation to *Ratzeburgia* in its more important characters that *Rottböllia* has to *Ischæmum Rottböllioides*, Prodr. Flor. Nov. Holl., which I have in that work suggested might form a distinct genus. This genus has very recently been adopted by M. Brongniart and named *Cœlorachis*, with a character, however, which, as far as regards the structure of the pedicelled locusta, is so limited as to exclude both *Ischæmum Rottböllioides*, whose pedicelled locusta contains an hermaphrodite and a neuter flower, and *Rottböllia Cœlorachis* of Forster, in which that locusta contains two male flowers. This last degree of development of the pedicelled locusta extends to other species, and such species differ from *Manisuris* merely in the form of the outer valve of the gluma of the sessile locusta.

Two other views, different from that here adopted, of the structure of *Ratzeburgia*, have been taken; the first by M. Kunth, who considers, and perhaps more correctly, the third squamula as the upper valve of the hermaphrodite flower. According to the second view, which is obviously suggested by the figure, the locusta would be regarded as containing one flower only.—*Brown.*

Plate CCLXXIII. Fig. 1. A spike. 2. The same, showing the rachis with two florets remaining. 3. Raches without the florets. 4. A floret, opened. 5. Back of the outer glume. 6. Back of the inner glume. 7. Paleæ, with pistil; the stamens having been removed. 8. Pistil, with hypogynous scales. 9. Hypogynous scales, seen from above.

JASMINUM DISPERMUM. Tab. 274.

Jasminum dispermum, Wall. in Roxb. Flor. Ind. vol. 1. p. 99.

Habitat in montibus Napaliæ, florens a mense Aprili usque ad Octobrem; fructiferum fine anni. Etiam observavi in valle Deyrah dicta. In montibus Sirmorensibus (W. S. Webb), Kamounensibus (R. Blinkworth).

Having already given a detailed description of this fine Jessamine in Roxburgh's *Flora Indica*, it is unnecessary to introduce it here. The shrub is among the less common species in Nipal, where it is found on the higher mountains.

Plate CCLXXIV. Fig. 1. 2. Flower. 3. 4. Calyx and corolla, opened.

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* The reasons for changing the name *Aikinia elegans*, engraved on the Plate, is stated in the text above.

Willughbeia martabanica

Vishnupersaud del.

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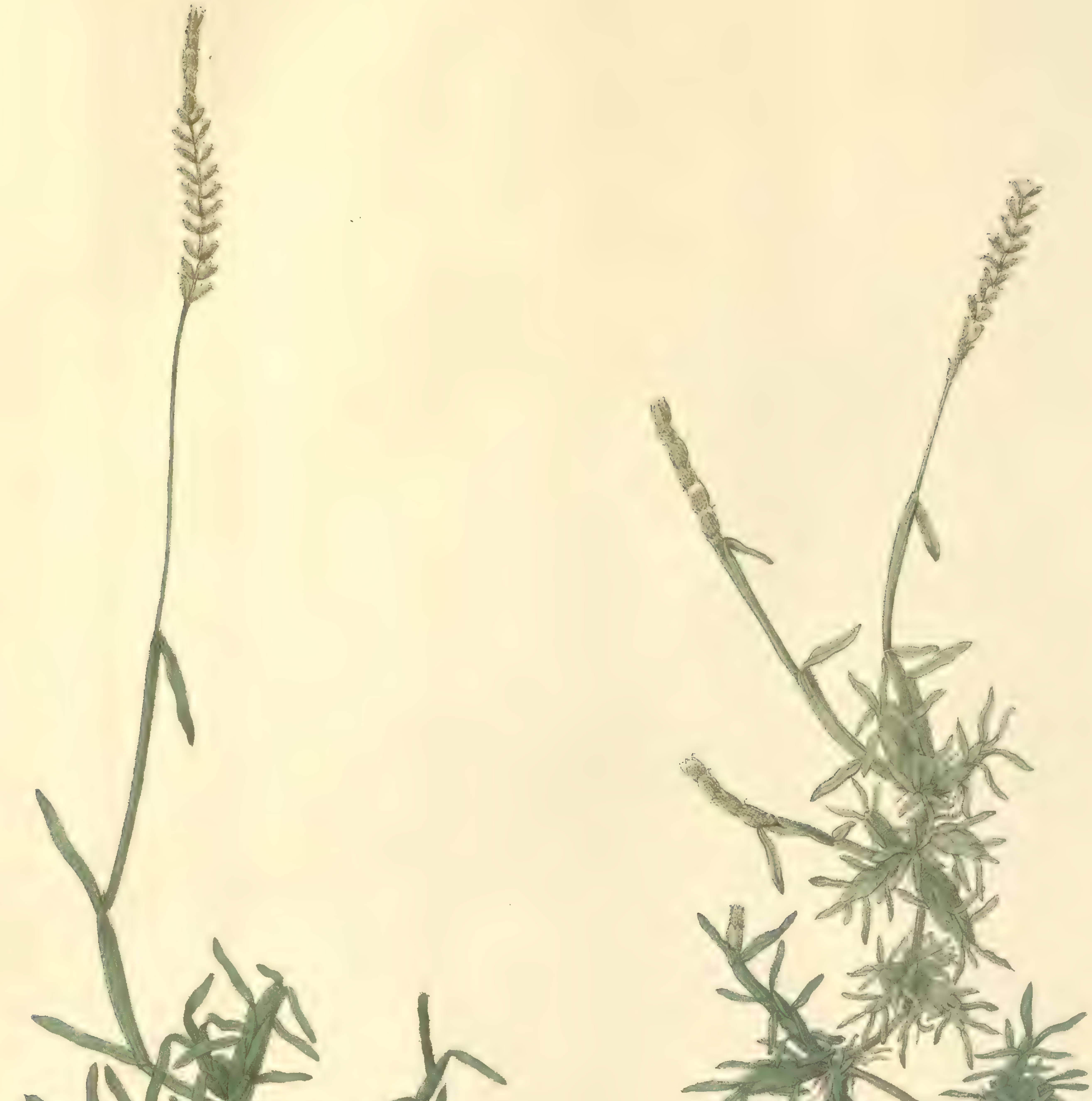
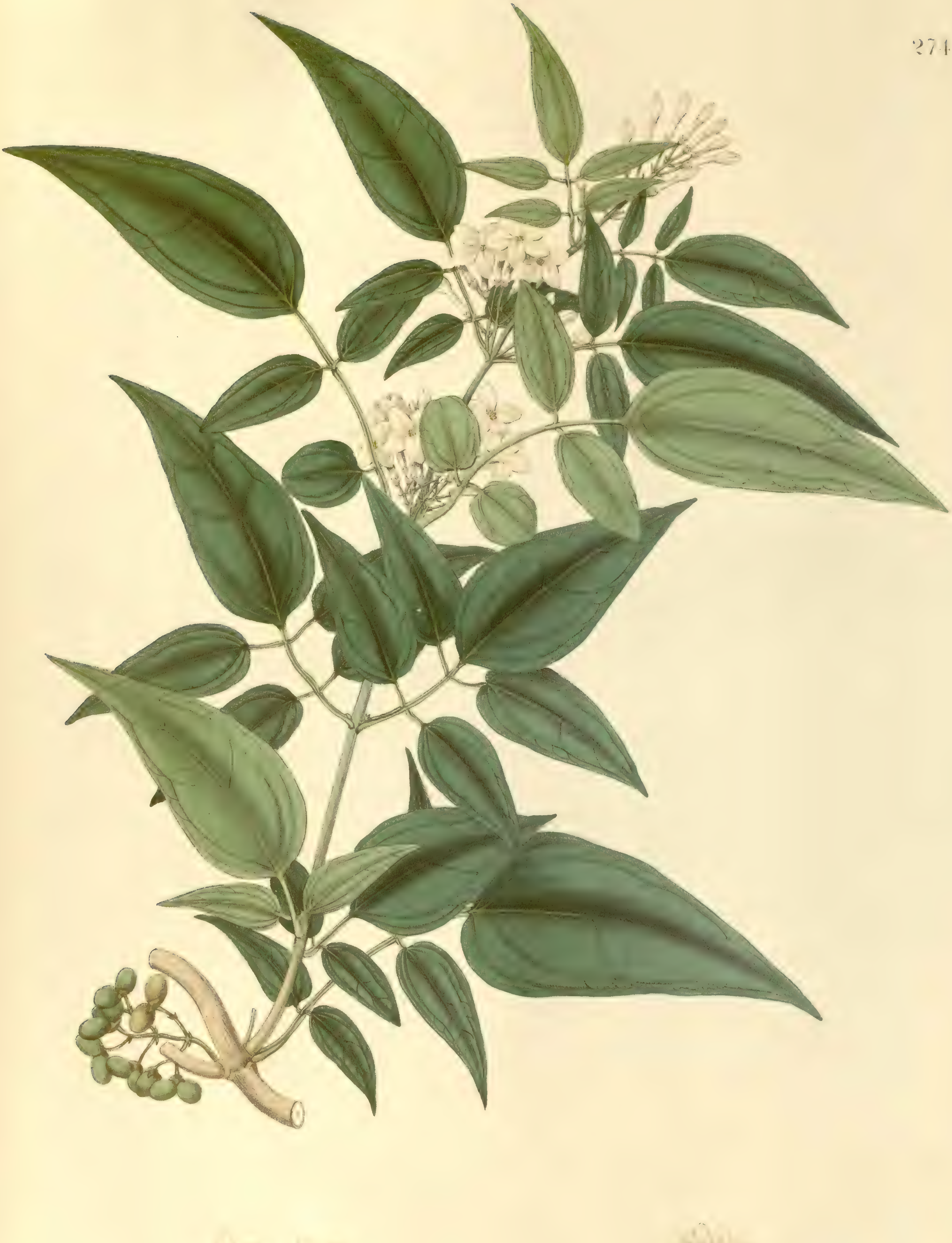


Aikinia elegans

M. Gauci lith

Printed by Engelmann & Co



Gorachand del^t

Jasminum dispermum

M. Gauci lith

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JASMINUM HETEROPHYLLUM. Tab. 275.

Jasminum heterophyllum, Roxb. Flor. Ind. vol. 1. p. 99. Wall. in eod. vol. p. 164.

Habitat in montibus Napaliæ, florens fructiferumque cum præcedente specie.

Of this most beautiful and fragrant Jessamine I have given a full description in the work quoted above; and I will only add here that the berries are oblong, kidney-shaped, sometimes obovate, generally twin, shining, of a dark purple colour, one-seeded, the epidermis ash-coloured, separating.

Plate CCLXXV. Fig. 1. 2. Flower. 3. 4. Calyx and corolla, opened.

EXACUM TETRAGONUM. Tab. 276.

Exacum tetragonum, Roxb. Flor. Ind. vol. 1. p. 413.

Habitat per totam ferè Hindustaniam gangeticam in pascuis agrisque, florens fructiferumque sub pluviis. In Napalia 1821. In Kamaon (Robertus Blinkworth).

A description of this species has been given by Dr. Roxburgh in his *Flora Indica*, who concludes it in these words: "This is one of the most elegant plants I have met with, the flowers being not only numerous, large, and beautiful, but retaining their beauty for many days, which is a rare circumstance in an Indian plant."

Plate CCLXXVI. Fig. 1. Calyx, opened. 2. Corolla.

FRAXINUS FLORIBUNDA. Tab. 277.

Fraxinus floribunda, Wall. in Roxb. Flor. Ind. vol. 1. p. 150.

Crescit in sylvis Napaliæ, florens fructiferaque a mense Aprilis usque ad Junium.

Since the time when I published the description of this noble tree, which is called *Lakkurree* in the Newar language, I have seen it in its native country, where it attains an immense size. The flowers are most frequently hermaphrodite. The ovary is small, compressed, covered with detachable purple scales, two-celled; each cell with two cylindric pendulous ovules; style short, flattened, smooth; stigma very long, fleshy, erect, furrowed, its apex, which is on a level almost with the anthers, bifid.

The wood, according to Mr. Aikin, is precisely like English Ash. (See List of Indian Woods, in the Transactions of the Society of Arts, vol. 48. p. 454.)

Plate CCLXXVII. Fig. 1. 2. Flower. 3. 5. Petals and stamens. 4. Calyx, opened. 6. Cluster of fruit. 7. Samara, opened lengthways. 8. The same, divided horizontally. 9. Seed.

SALACIA LONGIFOLIA. Tab. 278.

Crescit in Napalia. In horto botanico Calcuttæ floret fructusque profert sub pluviis.

Frutex magnus, ramosus, lævis. Rami longi, cylindrici. Folia opposita, patentissima, oblonga, acuminata, serrulata, basi acutiuscula, 6-pollicaria, lucida, coriacea, subtùs tenuitèr nervoso-nervosa, *petiolis* insidentia semipollicaribus. Flores pallidè virides, longiusculè pedicellati, densè aggregati in fasciculos axillares pedunculatos rotundatos, petiolo duplò longiores, uti fructus omninò istis *Johniæ salacioidis*, Roxb. (*Salaciæ Roxburghianæ* nostræ) similes.

This shrub is nearly allied to Roxburgh's species just quoted, but it differs in having longer and altogether larger serrulated leaves, and very densely crowded flowers. *Salacia densiflora*, n. 4224. of my Catalogue of the Honourable Company's Herbarium, is the same as our species.

Plate CCLXXVIII. Fig. 1. 2. Flower.

INDIGOFERA BRUNONIANA. Tab. 279.

ERECTA, ubiquè pube adpressâ glauca; petiolo subelongato, foliolis 1—3, (poll. 4—5½ longis, 1½—2½ latis,) ovato-lanceolatis, mucronatis; racemis folio longioribus, calycibus dentatis, leguminibus (immaturis) patentibus, rectis, rufo-tomentosis.—*Graham MSS.*

Indigofera Brunoniana, Graham in Wall. Cat. Herb. n. 5491.

Habitat in Burmæ montibus Prome, florens fine anni; inde in hortum Calcuttæ botanicum introducta.

PLANTA suffruticosa, erecta, per totam superficiem pube adpressâ glauca. PILI centro adfixi. CAULIS erectus, subflexuosus, angulatus (simplex). STIPULÆ a petiolo distinctæ, filiformes, patentes, vel minutissimæ, recurvæ, adpressæ; *stipellæ* 2 ad apicem petioli. PETIOLI alterni, subelongati, supernè canaliculati, 1—3-foliolati. FOLIOLA ovato-lanceolata, mucronata, venosa, pollices 4—5½ longa, 1½—2½ lata; *lateralia* minora, brevè petiolata, impar longè petiolatum; venæ parallelæ, subtransversales, subtùs elevatæ. RACEMI spicati, axillares, pedunculati, folio longiores. CALYX 5-dentatus, demùm ferè planus. COROLLÆ 4-petalæ *vexillum* majus, oblongum, striatum, extùs rufo-pubescens; *carina* ciliata, calcaribus rectis, elongatis; *alæ* carinâ breviores. STAMINA diadelpha, imo calyci inserta, carinâ occulta; *filamenta* glabra; *antheræ* cordatæ, mucronatæ. PISTILLUM stamina æquans; *ovarium* lineare; *stylus* subulatus; *stigma* parvum, capitatum, glabrum. LEGUMEN elongatum, patens, rectum, rufo-tomentosum, compressum, marginibus callosum, seminibus (immaturis) isthmis cellulosis ferè disjunctis.—*Grah. MSS.*

I am indebted to my valued friend Professor Graham for the character and description, and to Dr. Greville for the elegant drawing, of this interesting *Indigofera*. In the wild state the leaves attain a much greater size than those of the annexed Plate, which represents a cultivated plant. Dr. Graham observes, that the cultivated plant, besides having the leaves smaller, narrower, and more lanceolate, has the stem less flexuose. The dried specimens of both states indicate, by their colour, the presence of a proportion of colouring matter, which may perhaps prove of great importance, the leaves being infinitely larger than those of the plant cultivated for indigo (*I. tinctoria*), or, indeed, of any of the other species of this most extensive and difficult genus. I have taken measures to cultivate a sufficient quantity of the plant to enable me to ascertain what proportion and quality of the dye may be obtained from it.

Plate CCLXXIX. Fig. 1. Side view of a flower. 2. Front view of the calyx. 3. Vexillum, seen from its outer side. 4. The same, from the inner side. 5. Alæ. 6. Carina. 7. Stamens and pistil. 8. Unripe legume. All (except Fig. 2.) more or less magnified.

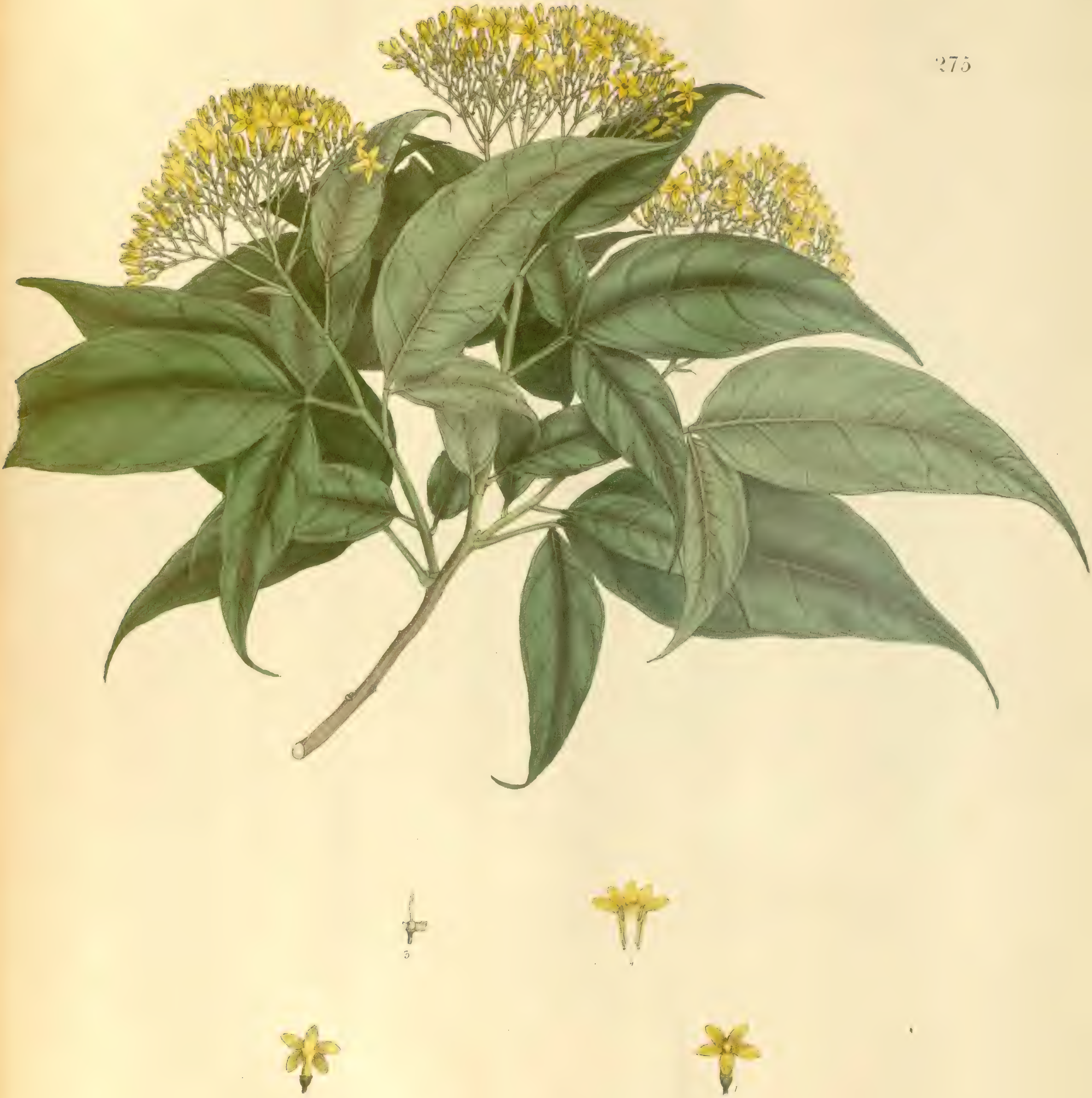
ANDROPOGON SCHŒNANTHUS. Tab. 280.

Andropogon Schœnanthus, Linn. Roxb. Flor. Ind. vol. 1. p. 278.

I beg to refer the reader to Dr. Roxburgh's work, just quoted, for a full description of this valuable grass. Dr. Fleming gives the following account of its medicinal properties in his Catalogue of Indian Medicinal Plants and Drugs, inserted in the Asiatic Researches, vol. 11. p. 156. (separate edition of the Catalogue, p. 5.)

"This plant, under the name of *Juncus odoratus*, had formerly a place in all European Pharmacopœias, but it is now rarely met with in the shops. It continues however to be a favourite herb with the Asiatics, both for medicinal and culinary purposes. The Hindu practitioners consider the infusion of the leaves as sudorific, diuretic, and emenagogue. Whatever title it may have to these virtues, it is at least a very agreeable diluent; and on account of its fragrant smell, aromatic flavour, and warm, bitterish but not unpleasant taste, is generally found to be a drink very grateful to the stomach in sickness. Many Europeans with whom tea does not agree, use instead of it the infusion of this plant, to which they have given the name of *Lemon-grass*."

Dr. Maton, one of the Vice Presidents of the Linnean Society, and Physician Extraordinary to the late Queen Charlotte, tells me that he has repeatedly been treated with a dish of Lemon-grass tea by Her Majesty, who used



Jasminum heterophyllum.

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Printed by Graf & Soret 14 Newman St.

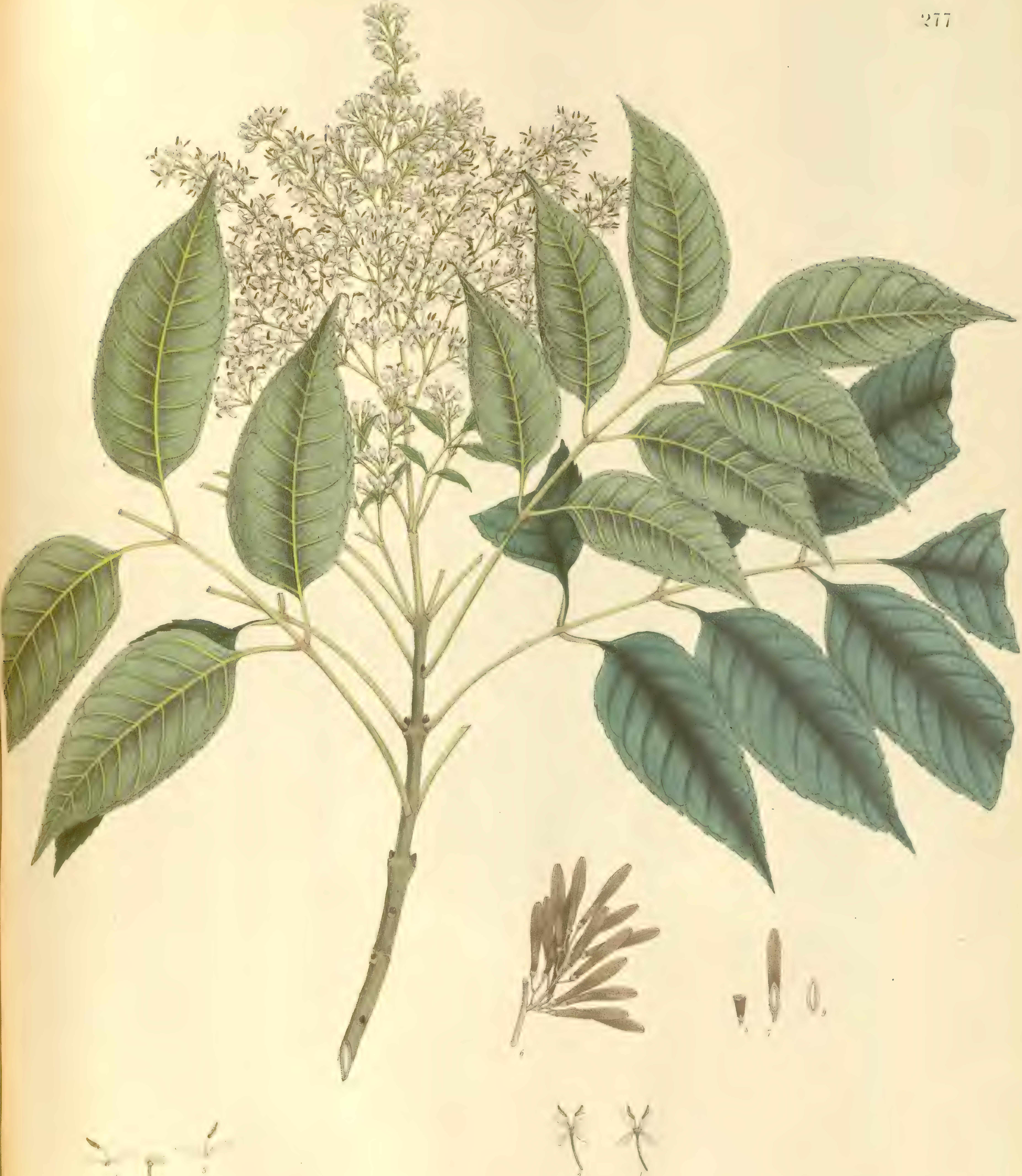
M. Gauci lith

Gorochand del.

Exacum tetragonum

M. Gauci lith

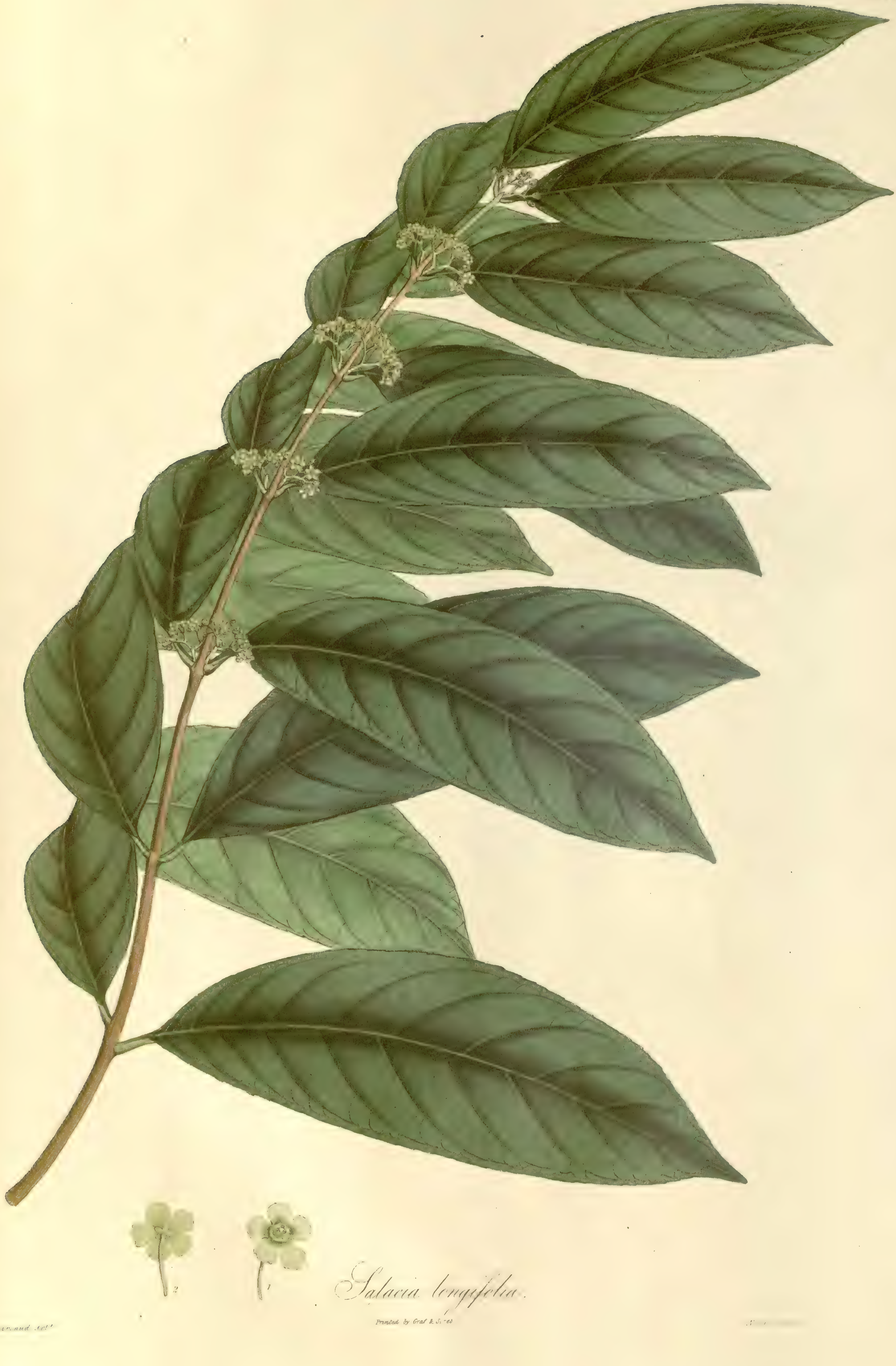
Printed by Graf & Soret.



Fraxinus floribunda.

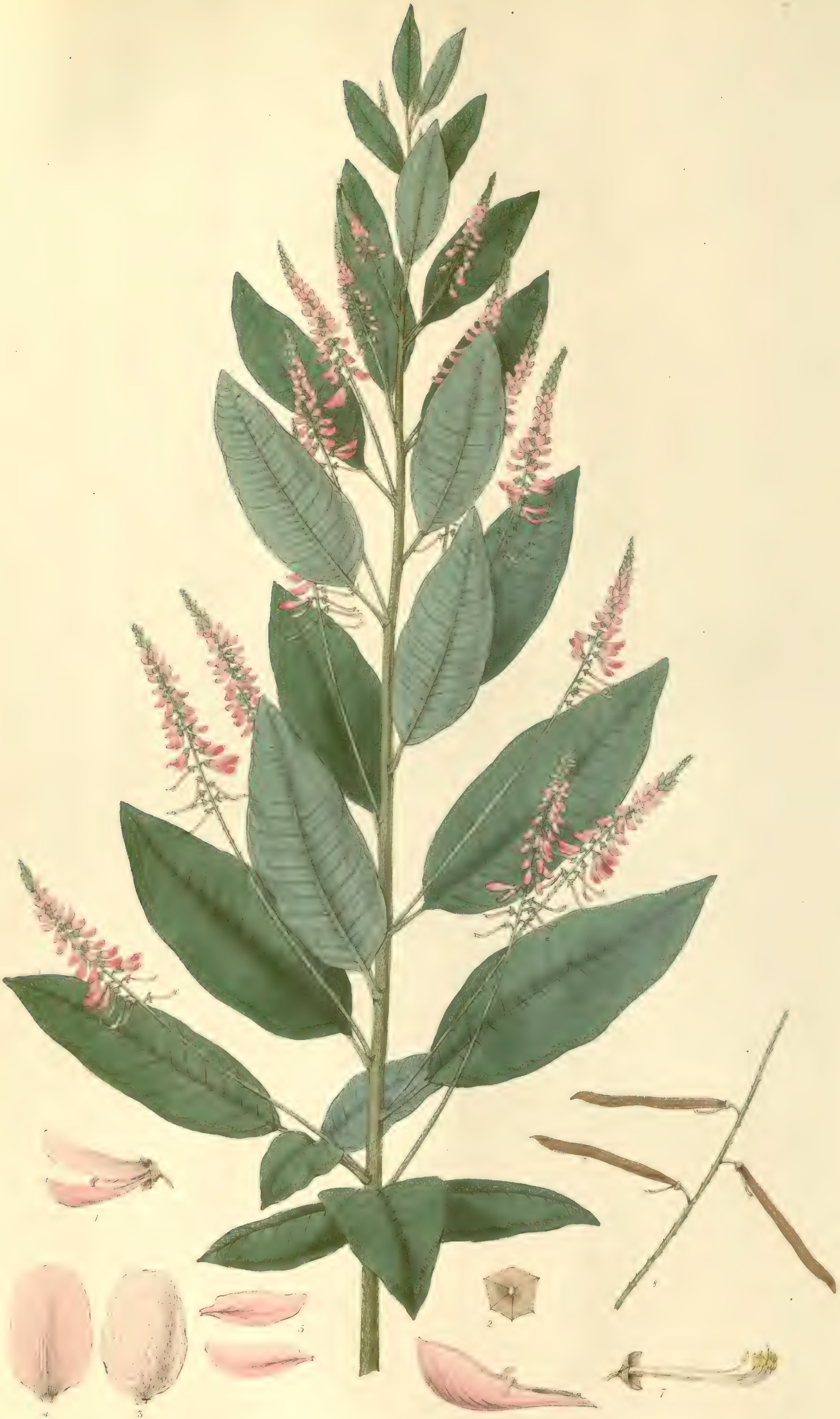
Gorochand delt

Printed by Graf & Soret



Salacia longifolia.

Vishnupersaud del.   Printed by Graf & Soret   [illegible]



R. K. Greville del^t

Indigofera Brunoniana.

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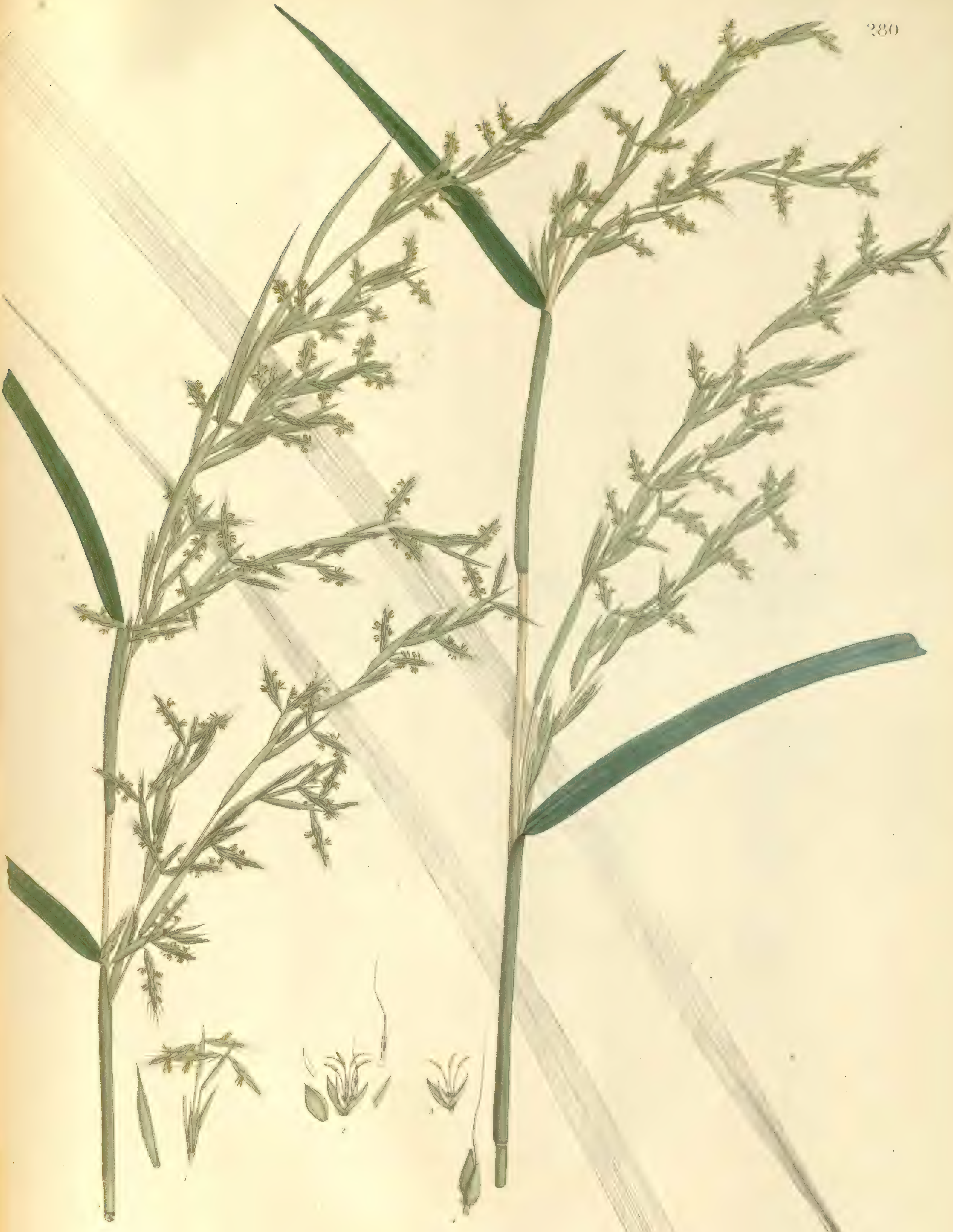
Printed by Graf & Soret



Andropogon Schoenanthus.

Gorochaud del^t

Printed by Graf & Soret

M Gauci lith

to be very fond of it, and was supplied with the plant from the Royal Gardens at Kew. At the Doctor's request I have recently obtained a quantity of the dried grass from the Botanic Garden at Calcutta, on purpose to ascertain whether the delightful aroma admits of being preserved in this state, in which case the drug would deserve to be restored to the European Materia Medica. There are few people who have experienced the influence of an Indian climate, who have not found benefit from the wholesome and refreshing beverage prepared from this grass.

Plate CCLXXX. Fig. 1. A branchlet of the panicle, with two paired spikes. 2. Hermaphrodite flower, dissected. 3. Male, ditto

GARDNERA WALLICHII. Tab. 281.

Foliis oblongo-lanceolatis, acuminatissimis; pedunculis axillaribus trifloris vel bifido-trifloris, corollis suprà densè villosis, antheris 4, coalitis.

Gardnera Wallichii, Herb. Wight.

Habitat in montibus ad Salem (Wight).

Frutex volubilis, lævis. Rami cylindrici, graciles. Folia opposita, patentia, subdistantia, oblongo-lanceolata, attenuato-acuminatissima, integerrima, basi acuta, coriacea, lucida, subtùs pallida, costâ elevatâ, nervis intra marginem arcuato-anastomosantibus gracilibus, venis reticulatis. Petioli unguiculares. Pedunculi axillares oppositi, solitarii, petiolo bìs tèrve longiores, triflori, vel bifido-triflori, cum flore solitario in divisura; *pedicelli* semipollicares, basi medioque bracteolati. Flores magnitudine formâ et structurâ prorsùs illorum *Gardneræ ovatæ;* corolla suprà densè obtecta villis brevibus albicantibus.

I am greatly obliged to my kind friend Dr. Wight for specimens of this interesting plant, and for the drawing from which the Plate has been engraved. In 1820 I gave a detailed account of the genus, and of the only species then known to me, (*Gardnera ovata*,) in Roxburgh's *Flora Indica*, vol. 1. p. 400, of which a figure has been added to this volume (Plate 231). Four years afterwards I published in the 2nd volume of Roxburgh's work, p. 318, an account of a second species, which I found in Nipal, namely, *G. angustifolia*. Our plant is different from both.

Plate CCLXXX. Fig. 1. Calyx. 2. Corolla.

ROXBURGHIA VIRIDIFLORA. Tab. 282.

Roxburghia viridiflora, Smith Exot. Bot. vol. 1. p. 111. t. 57. Id. in Cyclop. Reesiana, in loco.

Stemona tuberosa, Lour. Flor. Cochinch. vol. 2. p. 404.

Habitat in Chittagong (F. Hamilton). Ad litora sinûs Siamensis (G. Finlayson). In horto botanico Calcuttæ floret Decembre—Februario; fructificat Martio.

This plant has been fully described, with the exception of the details of the fruit, by the late excellent President of the Linnean Society. His opinion as to its specific difference from *Roxburghia gloriosoides* of Dryander (in Roxburgh's Coromandel Plants, vol. 1. p. 29. t. 32.) is confirmed by the flowering specimens preserved in the Honourable Company's Herbarium, (now in the possession of the Linnean Society,) as well as by the smaller size of the fruit of Dryander's plant, of which I have an incomplete drawing made many years ago from samples which had ripened in the Calcutta Garden. In the Herbarium of Sir J. E. Smith there is a specimen which blossomed in the late Lady Amelia Hume's stove at Wormleybury, corresponding exactly with our species. There is likewise a specimen in Mr. Finlayson's Herbarium, without flower or fruit, labelled "*Dioscorea?*" which seems to be the same as our plant and Loureiro's *Stemona tuberosa*, quoted with a doubt by Dr. Roxburgh in his manuscript *Flora Indica*, under *R. gloriosoides*.

I am enabled to supply what has hitherto been a desideratum,—a complete carpological account of the genus *Roxburghia*,—through the liberality of Professor Lindley, who has kindly furnished the following description, illustrated by a drawing made under his immediate directions by Miss Drake, a very skilful and elegant artist, from specimens preserved in spirits, recently received from Calcutta. It is with feelings of pride and satisfaction that I am thus enabled, through the friendship of one botanist, to contribute to the memory of another, to whom the science owes far greater obligations than to any naturalist who ever visited India; of a predecessor so eminent and indefatigable, that no exertion of mine can ever make me fully worthy of occupying his post; of a friend and patron whose kindness and hospitality I shall always remember with heartfelt gratitude. In the manuscript of the excellent Dr. Roxburgh, now before me, there is an affecting anecdote, which is not found in the printed account of *Roxburghia gloriosoides* in his Coromandel Plants, although it refers to that species; no apology is necessary for introducing it here. "This was one of the last plants which Dr. König saw. It was brought in when on his death-bed. He did attempt to examine it, but was unable; the cold hand of death hung over him. He desired that I would describe it particularly, for he thought it was uncommonly curious and beautiful.—This observation from a worthy friend, a preceptor and predecessor, has made me more than usually minute in describing and drawing it." Truly did the dying König designate the plant *uncommonly curious and beautiful.* It belongs not only to a distinct genus, which Dr. Dryander has justly dedicated to Dr. Roxburgh, but it forms probably a new tribe or family of plants, which Mr. Lindley,—who has all the honour and credit of first describing and elucidating it in the following observations and in the annexed plate,—has generously conceded to me the privilege of naming, and which I accordingly call *Roxburghiaceæ.*

ROXBURGHIA VIRIDIFLORA.—*Pericarpium* superum, oblongum, compressum, carnosum, olivaceum, maculis pallidis conspersum, *pendulum* 1-loculare, 2-valve, polyspermum, *contextu celluloso interiore* dodecaedrali, cellulis plurimis materie pallidè viridi farctis, quibusdam (interioribus) vacuis; *exteriore* compresso; venis in substantia pericarpii rectiusculis, subparallelis, ramulis quibusdam vagis e vasibus spiralibus simplicissimis, contextu inclusis fibroso. *Valvulæ* planiusculæ, dorsi medio longitudinaliter convexæ, intùs niveæ. *Placentæ* 2, basi utriusque valvulæ adnatæ, albæ, carnosæ, planæ, divisæ in *funiculos* plurimos filiformes, longissimos, subspirales, apice arilliferos, e fasciculo conflatos vasorum plurium spiralium, simplicissimorum, telâ cellulosâ prismaticâ vacuâ inclusorum. *Arillus* stuposus, constans filamentis numerosissimis cylindraceis, obtusis, albis, cellulosis, contextu vasculoso nullo. *Semina* cinnamomea, teretia, basi angustata, apice rostrata, medio paullulùm constricta. *Testa* suberosa, sulcata, compage cellulosâ, secus nucleum valdè compressâ, superficiem versus sensìm inflatâ et rotundatâ. *Raphe* obsoleta, angulum internum seminis occupans, in rostrum incurvum desinens. *Chalaza:* areola rotunda, fusca, subdepressa sub rostro. *Embryo* rectus, filiformis in axi *albuminis* carnosi, extremitate radiculari clavatâ testæ contiguâ, cotyledoneâ attenuatâ, albumine breviore. *Plumula* minutissima, conica, intra embryonem recondita, rimâ nullâ.—*Lindl. MSS.*

There is no order of monocotyledonous plants to which *Roxburghia* can be very certainly referred. Its habit is that of *Smilaceæ* and *Dioscoreæ,* but the venation of the leaves, the structure of the fruit, and the number of the parts of the flower, are entirely at variance with those orders. It approaches the *Aroideæ* more nearly than any other tribe, especially in the quaternary proportion of the perianth and stamens, in its placentation and offensive odour: it may also be compared with the climbing species of that order in regard to its habit; nor is the venation of its leaves very much at variance with many of the ribbed-leaved *Pothoses.* But the highly developed perianthium, and the absence of any lateral rima in the embryo for the escape of the plumula, are such important points of difference, that it is impossible to consider *Roxburghia* absolutely referable either to *Aroideæ* or to any of the tribes that modern botanists have struck off it.—*Lindl.*

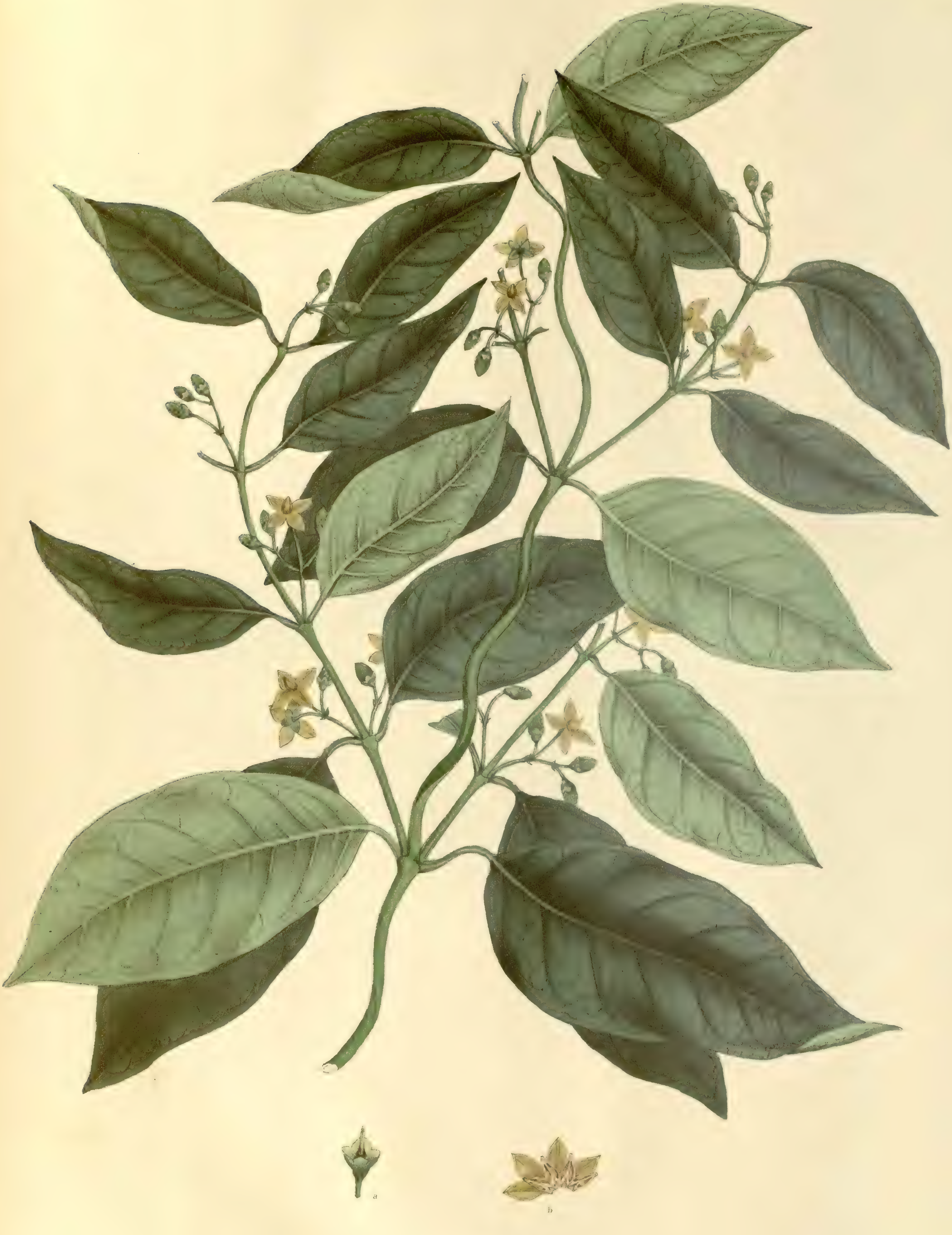
Plate CCLXXXII. Fig. 1. A front view of a full-grown fruit, natural size. 2. Side view of the same. 3. A fruit, after the dehiscence, showing the two valves and the seeds hanging by their long funiculi in two parcels, originating at the base of the valves: natural size. 4. A portion of one of the placentæ, with four funiculi, a seed attached to one of them: *a,* a piece of the placenta; *b,* funiculi; *c,* the stupose arillus; *d,* a seed; magnified. 5. A highly magnified view of one of the hairs of the arillus, showing their cellular structure. 6. A longitudinal section of a seed, magnified: *a,* the embryo; *b,* side of the testa where the raphe passes; *c,* the beak. 7. Transverse section of the same: *a,* the embryo; *b,* the side along which the embryo passes. 8. A highly magnified view of a longitudinal section of the radicular extremity of the embryo: *a,* the plumula; *b,* the rudiment of an internal radicula. 9. A highly magnified view of a transverse slice of the testa, and of a portion of the nucleus: *a,* the nucleus; *b,* the testa. 10. A highly magnified view of a longitudinal slice of a thin part of the pericarpium: *a,* the cellular tissue of the outside; *b,* that of the middle; *d,* that of the lining; *e,* a bundle of spiral vessels incased in woody fibre, which appears to have been a ramification of one of the principal veins. 11. A highly magnified view of a longitudinal slice of one of the funiculi; *a,* the external prismatical cellular tissue; *b,* the central bundle of spiral vessels without a case of woody fibres.

MELANORRHŒA GLABRA. Tab. 283.

FOLIIS cuneato-oblongis, lævibus.

Habitat ad Tavoy oræ Tenasserim, florens mense Decembris (Gulielmus Gomez).

ARBOR. RAMI cinerascentes, supernè cano-pubescentes. FOLIA ad apicem ramorum valdè approximata, sparsa, patentia, cuneato-oblonga, obtusa, integerrima, levitèr undulata, deorsùm valdè attenuata, basi subacuminatâ in petiolum brevem subdecurrentia, 6—10-pollicaria, coriacea, lævia, suprà lucida, subtùs costâ elevatâ, nervisque in recentibus foliis puberulis, frequentibus, transversis, intra marginem anastomosantibus, venis reticulatis. PETIOLUS semipollicaris, suprà planus, subtùs pubescens. CORYMBI axillares, solitarii, foliis breviores, longiusculè pedunculati. PEDUNCULI teretes, glabri; *universalis* 3-pollicaris; *partiales* alterni; *pedicelli* semipollicares. BRACTEOLÆ lineares, caducæ ad basin pedicellorum. FLORES pauci subfasciculati, albicantes. SEPALA 5 lanceolata, membranacea, reti-



Gardnera Wallichii

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Roxburghia viridifloia

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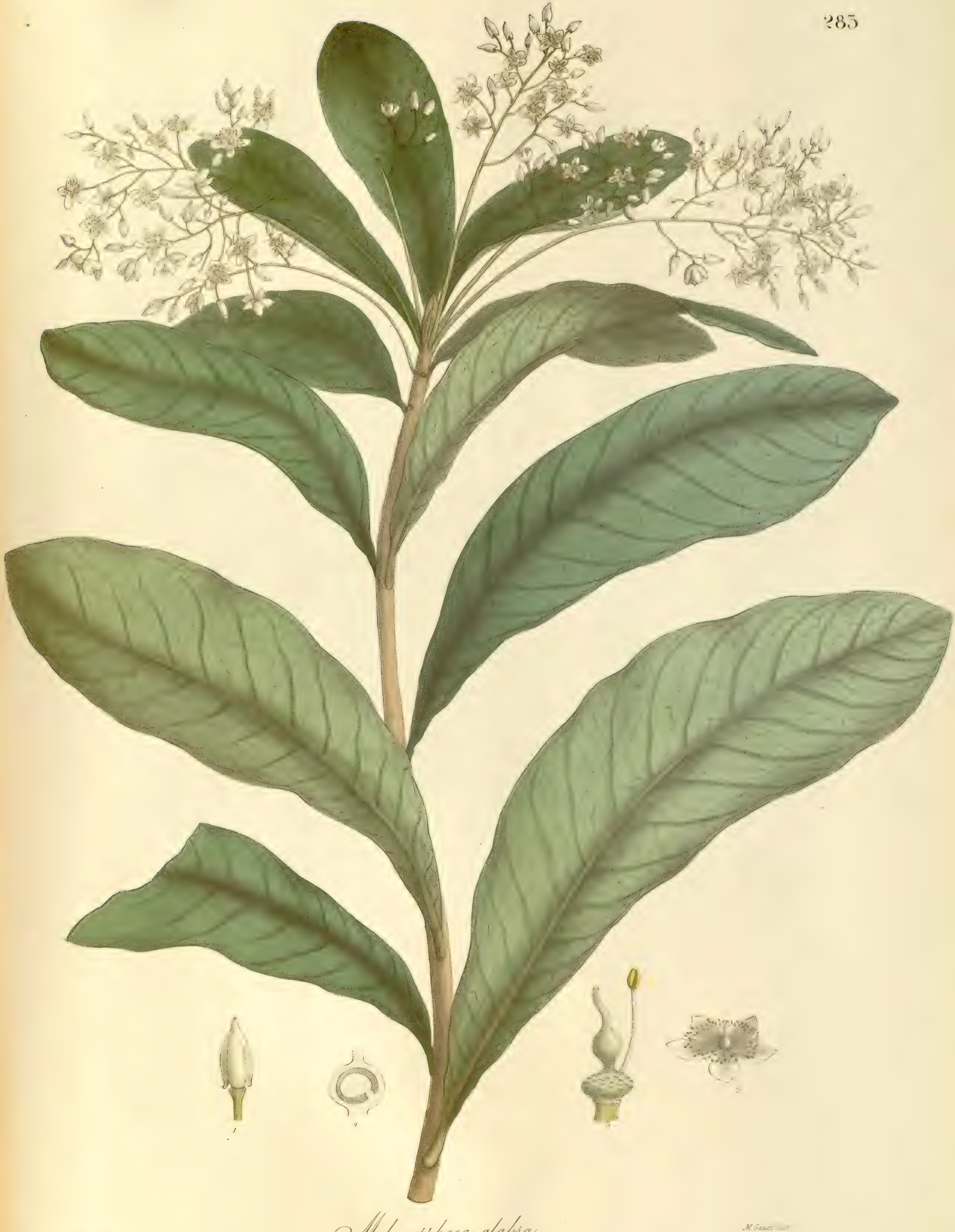

Melanorrhoea glabra.

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M. Gauci

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culata, extùs pube minutâ obsita, in *calycem* calyptræformem citò deciduum, valvatim cohærentia, basi tantùm libera. Petala 5 lanceolata, acuta, ciliata, extùs puberula, venulosa, lineas 5 longa, mox decidua. Stamina plura, patentia, toro convexo inserta, longitudine petalorum; *filamenta* capillacea, glabra; *antheræ* parvæ, ovatæ, biloculares, oscillantes, introrsæ. Ovarium obliquè lenticulare, hinc gibbosum, stipite brevi, pilosulo suffultum, læve, *ovulo* solitario, reclinato, *funiculo* brevissimo sustento; *stylus* lateralis, filiformis; *stigma* parvum.

I have already adverted to this tree, under *Melanorrhœa usitata* (vol. 1. p. 9 and 12). I am not acquainted with any use to which it is put, nor do I know if it produces any acrid juice, like the other species.

Plate CCLXXXIII. Fig. 1. A flower, with the hooded calyx. 2. The same, after the calyx has dropped off; Pistil with one stamen inserted on the torus.

ANDROMEDA FASTIGIATA. Tab. 284.

Andromeda fastigiata, Wall. in Act. Soc. Asiat. vol. 13. p. 394.
Habitat in Himalaya ad Gossain Than. Kamaon (R. Blinkworth).

Plate CCLXXXIV. Fig. 1—3. Leaves, seen in various directions. 3 (bis). A leaf cut across. 4. Flower. 5. The same, dissected. 6. Corolla, opened. 8. Capsule. 9. The same, divided horizontally. 10. The same, divided longitudinally.

HEDYCHIUM SPECIOSUM. Tab. 285.

Hedychium speciosum, Wall. in Roxb. Flor. Ind. vol. 1. p. 13.
Habitat in montosis ad Sillet (F. DeSilva et Gulielmus Gomez).

Plate CCLXXXV. Fig. 1. Fascicle of flowers. 2. 3. Flower, dissected.

MARANTA RAMOSISSIMA. Tab. 286.

Fruticosa, paniculata; radice constante tuberibus stipitatis, pendulis, fasciculatis, clavatis; foliis radicalibus longè petiolatis, oblongis, subcordatis, rameis ovato-oblongis.

Crescit ad Sillet Bengalæ orientalis, unde in hortum botanicum Calcuttæ misit F. DeSilva.

I am unable to offer a detailed description of this species, which is very distinct from *Maranta dichotoma* (Roxburgh's *Phrynium*) by its numerous, long and clavate tubers. The plant resembles the West Indian *Maranta arundinacea*, and its root contains a large proportion of starch, commonly called Arrow-root.

Plate CCLXXXVI. Fig. 1. The base of a plant, on a reduced scale. 2. Tubers. 3. A radical leaf.

POLYGONUM EMODI. Tab. 287.

Spicis geminatis, angustis, floribus inapertis, achenii acutanguli faciebus lævibus nitidissimis; foliis angustè lanceolatis sublinearibusque, acutissimis, utrinquè æqualitèr attenuatis, margine revoluto integerrimis, suprà densè pennatim nervosis; trunco epigeo, prostrato, ramoso, radicante, ubique folioso, caulibus annotinis, erectis, simplicibus. —*Meisner MSS.*

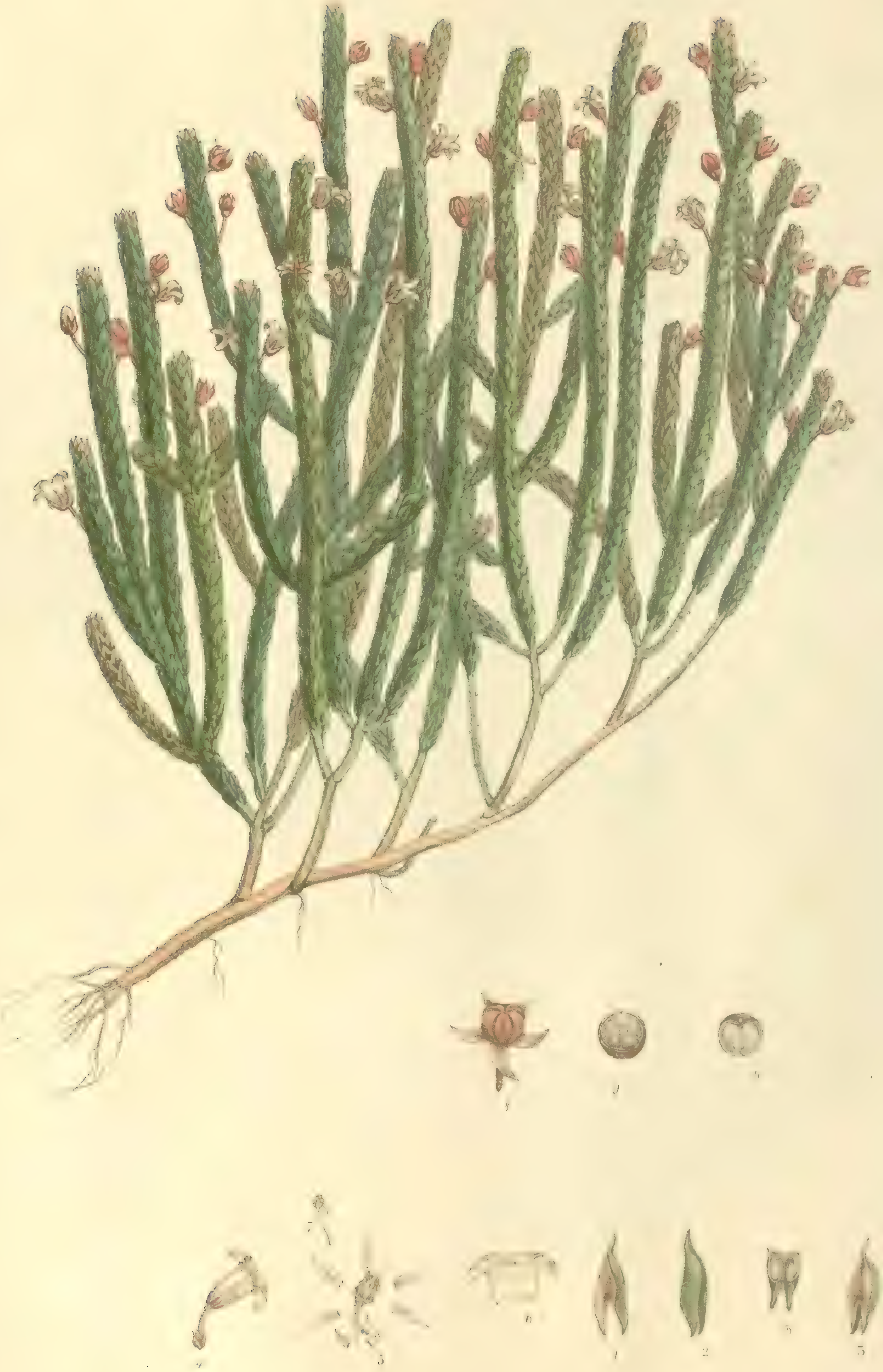
P. Meisneri, Wallich! in Cat. fol. 46. n. 1693, (anno 1830) haud Chamisso et Schlechtendal in Linnæa, vol. 3, (1828) p. 40. *P. Emodi*, Meisn. in Wall. Cat. fol. 214, sub n. 1693.

In Kamaon legit Robertus Blinkworth.

Fruticulus humilis, editiorum regionum montium Kamaonensium incola, trunco ramisque prostratis in soli superficie inter muscos prorepens, vel rariùs hinc indè ramos agens per breve spatium subterraneos. Truncus vel Caudex horizontalis, lignosus, teres, sæpè sesquipedalis, crassitie pennæ anserinæ, strictus vel parùm flexuosus, ad nodos et maximè ramorum origines paullò incrassatus subtusque *radiculas* emittens fibrosas teneras, glaber, e purpureo fuscus vel cinerascens, lineatus, ochreis marcidis laceratisque circumvolutus, aut cortice fisso ac discedente subdenudatus. Rami primarii, e trunco communi orti, huic similes, tenuiores, flexuosiores, divaricati, prostrati. *Internodia* trunci subæqualia, 1—1½ poll. longa, subnuda; ramorum sterilium vix ¼ poll. longa, ochrearum rudimentis tecta; ramorum annotinorum denique spicigerorum erectorumque circitèr pollicaria, crassitie pennæ corvinæ. Ochreæ (in ramis nonnisi annotinis primariam atque normalem indolem exhibentes,) cylindricæ, obliquè truncatæ et hinc quasi acuminatæ, acutæ, laxè vaginantes, basin versùs sensìm angustatæ, ½—¾ poll. longæ, internodiis mox breviores, mox subæquales vel dimidiò longiores, membranaceæ, teneræ, fuscæ, nervis tenerrimis longitudinalitèr lineatæ, læves, glabræ, 1—2 lin. supra basin folium gerentes, ore subintegro, vel in latere folium spectante fisso, seriùs fissuris pluribus lacerato, laciniato, laciniis linearibus vel ferè setiformibus. Folia lanceolata, acutissima, utrinque æqualitèr attenuata, brevissimè petiolata aut supernè sessilia, plerùmque sesquipollicaria, sæpiùs 2—2½ poll. longa, medio 2—4 lin. lata, coriacea, suprà obscurè viridia, subtùs e viridi fuscescentia, utrinque glaberrima, margine revoluto integro nec crispato-undulato, nervo medio subtùs acutè prominente suprà inconspicuo subimpresso, nervis lateralibus permultis densissimisque, angulis acutissimis a medio pennatim discedentibus, parallelis rectis subindivisis, in pagina superiore acutè prominulis, subtùs vix prominulis minùs conspicuis; quæ e rami cujusdam basi, aut e ramuli sterilis apice oriuntur folia, ob horum internodia admodum contracta et quasi confluentia, primo intuitu fasciculata credideris, eo magis, quo eorum insertiones ochreis imbricatim quasi se invicem obtegentibus absconditæ haud facilè distingui possunt. Spicæ ramos annotinos erectos vel adscendentes terminantes geminatæ (rariùs solitariæ) pedunculatæ, inæquales (altera 1—1½-pollicaris, altera dimidiò circitèr brevior,) angustè cylindricæ vel lineares, continuæ densæque, basi nonnunquam subinterruptæ, ante evolutionem in supremi folii ochrea sessiles, acutæ, ob bracteas tum regularitèr imbricatas strobili faciem imitantes. Pedunculi communes circitèr spicæ longitudine aut parùm breviores, teretes, strictiusculi, tenues, læves glabrique. Bracteæ teneræ membranaceæ acuminatæ, 2—4 lin. longæ, 1-nerviæ, basi vaginantes, integerrimæ, rariùs demùm sublaceræ, primò arctè imbricatæ adpressæque, seriùs laxiores et sæpiùs apice recurvæ, fuscæ, glabræ, læves, persistentes. Pedicelli in singula bractea solitarii, rariùs 2, ipsâ dimidiò breviores, lateralitèr subexserti suberecti, fructiferi patuli vel nutantes. Calyx floris *P. vivipari* magnitudine, corollinus, elegantèr saturatè puniceus, eglandulosus, ad basin usque 5-partitus, laciniis subæqualibus ovalibus vel obovatis obtusissimis integris erectis apice paulò conniventibus (nec unquam patentibus) obsoletè 3—5-nerviis. Stamina constantissimè octo, stylis breviora, filamentis dimidiam sepalorum partem parùm superantibus, *antheris* atropurpureis. Styli 3, a germine indè triquetro distincti, apice divergentes subnutantes, sepalis paullò breviores, *stigmatibus* capitatis, exiguis, flavis. Achenium calyce totum inclusum, magnitudine circiter *P. avicularis*, e fusco rufum, stylorum reliquiis demùm reflexis coronatum, triquetrum, acutum, angulis obtusis, faciebus rhombeo-ellipticis lævibus nitidissimis, basi attenuatis subacutis, apice ferè emarginatis excavatis; quæ pro maturis aperui, inania erant.—*Meisner.*

For the above account of this plant, as well as for the beautiful drawing from which the engraving was taken, I am indebted to my most valued friend Professor Meisner, of Basle in Switzerland. At my request that truly excellent botanist has written the following Synopsis of all the *Polygoneæ* in the Honourable East India Company's Herbarium, (now in the possession of the Linnean Society of London,) which he has honoured me with permission to insert in my work, and for which I offer him my grateful acknowledgements.

Plate CCLXXXVII. Fig. 1. Diagram of the relative position of the floral parts: *a*, axis of the spike (common peduncle); *b*, bractea; *c*, segments of the calyx, placed in a quincunx during æstivation; *d*, exterior series of stamens, alternating with the segments of the calyx; *e*, interior series opposite to the three inner segments of the calyx and the sides of the achenium, and alternating with the exterior series; *f*, ovarium. 2. A detached bractea, seen from without, exhibiting its single nerve. 3. Flower, showing the form of the calyx during the anthesis, after which it entirely closes. 4. Calyx, opened to show the relative position and size of the stamens and styles. 5. Detached sepalum. 6. Stamens, viewed in three ways. 7. Pistil, with the three distinct styles, which are only a little divergent from their middle upwards. 8. Nearly ripe achenium. 9. The same, its side excavated at the apex. 10. Upper extremity of the achenium. 11. Lower part of the same.



Andromeda fastigiata.

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Hedychium speciosum.

Maranta ramosissima

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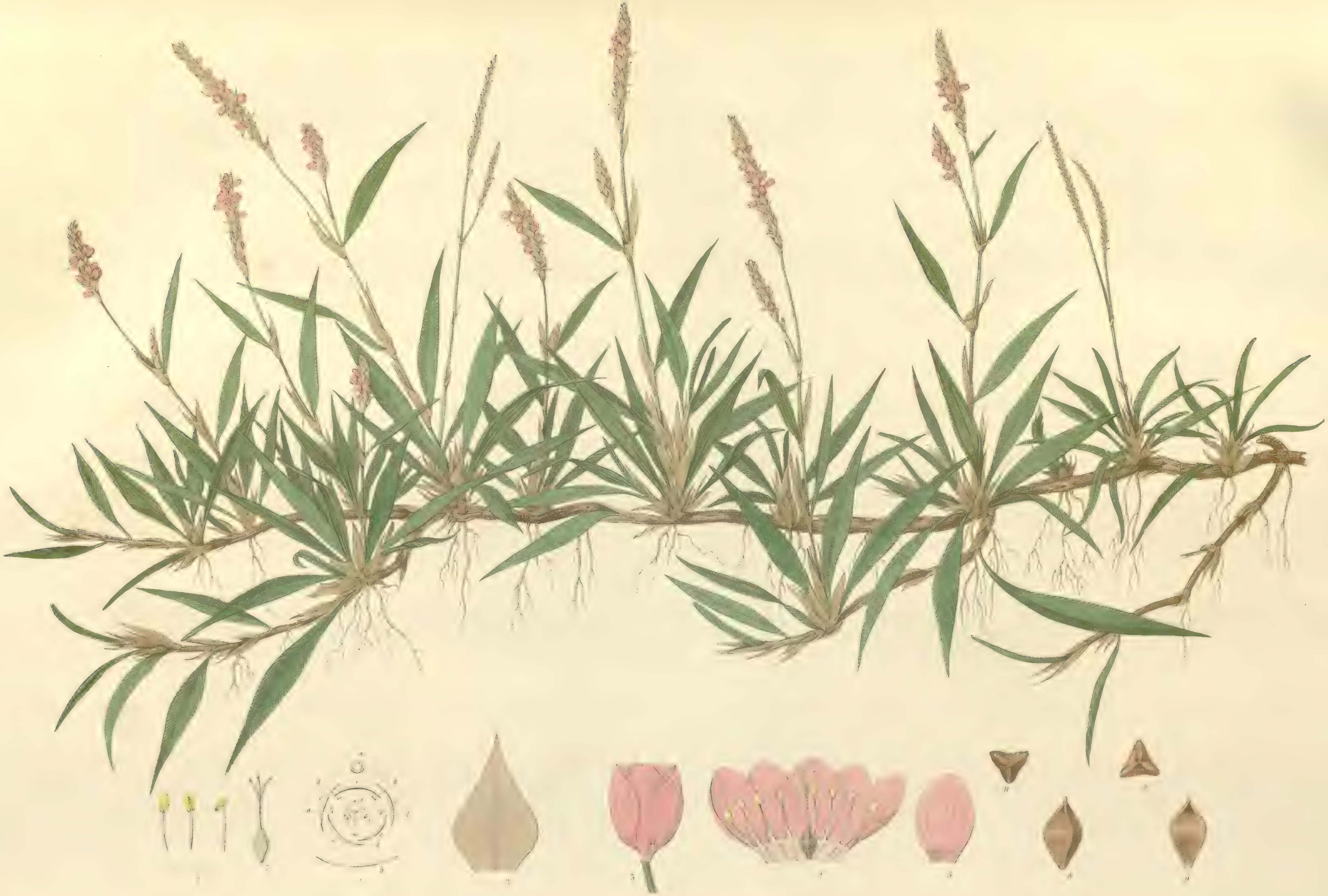

C. F. Meisner ad siccum del.

Polygonum Emodi.

M. Gauci lith.

Printed by Graf & Soret.

SYNOPSIS POLYGONEARUM,

QUARUM SPECIMINA EXSTANT IN HERBARIO AMPLISSIMÆ PROCURATIONIS BRITANNICÆ INDIÆ ORIENTALIS, NUNC SOCIETATIS LINNEANÆ LONDINENSIS.—*Auctore* CAROLO FRIDERICO MEISNER, *Med. et Chir. D., Medicinæ in Univ. Basileensi Prof. Publ. Ord., Societatum litt. plur. sodali.*

Præmittenda.

Quum, duobus annis præterlapsis, ex immenso thesauro plantarum in variis Indiæ Orientalis partibus lectarum, liberalitate virorum honoratissimorum amplissimæ Procurationis Britannicæ Indiæ Orientalis, spectatissimam acciperem plantarum exsiccatarum seriem, inter multas alias stirpes omnes ferè Polygoneas Herbarii Madraspatani, Heyneani, Wightiani, Hamiltoniani, et Wallichiani, amplectentem, curæ mihi cordique quam maximè erat, quomodo tanto honore tantâque benevolentiâ dignum me præstarem. Quid igitur exoptatius contingere mihi potuit, quàm ipsius Wallichii petitum, paucos ante menses mihi propositum, ut Polygonearum Indicarum synopsin elaborarem, operi suo inserendam. Læto igitur animo suscepi laborem cujus qualemcunque fructum hisce paginis lectori trado, sperans fore, ut, dum gratitudinis erga amicum carissimum fautoresque generosissimos publicum testimonium dare studui, simul ad scientiæ incrementum pro viribus conferre haud frustra in votis habuerim.

Synopsis nostra eas tantùm species enumerat, quarum specimina in herbariis suprà citatis servantur, exclusis igitur iis quæ nonnisi ex auctorum diagnosibus nobis innotuerunt. Ne nimis augeatur opusculi nostri volumen synonymiam auctorumque citationes valdè restrinximus et vix alias adhibuimus nisi: *Wallichii* Catalogum (i. e. "*A numerical List of Dried Specimens of Plants in the East India Company's Museum, &c.*" *by Dr. N. Wallich*, 1828—1832), *Roxburghii* Hortum Bengalensem, Serampore 1814, *Rothii* Nov. Pl. Sp., *Donii* Prodr. Floræ Nepalensis, et *Blumei* Bijdragen tot de Flora van Nederlandsch Indië, Batavia 1825.

POLYGONUM.

Polygoni sp. Linn. exclusâ sectione Fagopyri. Cfr. Meisner Monogr. Gen. Polygoni Prodr. Genevæ 1826, 4to.

Flores hermaphroditi. Calyx 5-fidus, rariùs 3—4-fidus, laciniis interdùm inæqualibus, sæpè coloratus, post anthesin plerùmque auctus, fructum recondens, rarò etiam formam mutans, in fundo sæpè glandulas fovens staminibus interpositas perigynas, rariùs hypogynas. Stamina 5—8, rarissimè 4 aut 9. Antheræ versatiles. Styli 2—3-fidi. Stigmata integra capitata, nonnunquam sessilia. Achenium 2—3-gonum. Semen liberum. Albumen farinosum vel corneum. Embryo lateralis, albuminis angulum ambiens ipsique incumbens aut cotyledones albuminis rimæ immittens.

Sectio I. BISTORTA.

Cotyledones accumbentes (=o). Achenium triquetrum. Styli 3 longi, stigmatibus exiguis. Stamina 8 (rarissimè 9). Calyx corollinus profundè 5-fidus. Racemi spiciformes (vulgò spicæ) nunquam ramosi. Bracteæ paleaceæ ochreæque teneræ obliquè truncatæ nunquam ciliatæ. Caules annotini herbacei e caudice vel trunco rhizomorpho (rhizomate) perenni, lignoso, radicante, sæpiùs subterraneo, orti, subsimplicissimi. Folia nunquam pellucido-punctata.

§ 1. *Rhizoma (radix auct.) simplex, crassum, tortuosum, abbreviatum. Caules annotini simplicissimi. Spica unica terminalis.*—(*Obs.* Typum hujus subdivisionis ferunt *P. Bistorta* et *P. viviparum.*)

1. *P. sphærostachyum* (Meisn. l. c. p. 53): spicâ compactâ brevi, cylindricâ vel ovato-conicâ, basi truncatâ, bracteis ovatis pedicellos brevissimos superantibus, foliis inferioribus petiolatis lanceolatis obtusis, supremis linearibus sessilibus, omnibus in margine revoluto costato-crenulatis. Crescit in Gossain-Than; Kamaon (R. Blinkworth); et Sirmore (Dom. Gerard.); v. sp. oo.

α globuliferum nob.: spicâ brevissimâ subglobosâ, bracteis omnibus æqualibus obtusiusculis, staminibus calycem subæquantibus.—*P. tenue*, Don? (Prodr. Fl. Nepal. p. 70) quod tantùm differre videtur "foliis radicalibus basi rotundatis;" nostra specimina, foliis radicalibus destituta, caulina tantùm exhibent folia eaque utrinque attenuata.—*P. affine*, Don, var. *angustifolium*, Wallich! Cat. n. 1683, *D* (partim).

β elatius nob.: spicis cylindricis oblongis, bracteis infimis quàm superiores longioribus acutè acuminatis, staminibus sæpè exsertis, caule elatiore.—*P. affine*, Don. Wallich! Cat. n. 1683, *A*, *B*, *C*, et (partim) *D*.

Adnot. Planta nostra a *P. affini* Don (nobis ex diagnosi tantùm noto), essentialiter discrepat: foliis obtusis, margine revoluto costato-crenulatis, subtùs puberulis, ochreis apice rotundatis, spicis nunquam geminis, floribus iis *P. vivipari* æqualibus, nec triplò majoribus, stylis profundè tripartitis. Propiùs accedit ad *P. stenophyllum* (Meisn. l. c. p. 52, *P. angustifolium* Don), quod verò differt: "foliis subtùs niveo-tomentosis," spicâ longiore, etc. A *P. viviparo* L., cui tam habitu quàm singularum partium indole simillimum, distinguitur: spicis semper compactis, basi non interruptis laxisve, nec demùm elongatis laxifloris, nunquam bulbilliferis, floribus pallidè carneis vel saturatiùs purpureis, in *P. viviparo*, quotquot hujus e diversissimis totius orbis plagis specimina vidimus, semper purè albis.

2. *P. viviparum* L. (Sp. Pl. I. p. 516. Meisn. l. c. p. 52.)

Adnot. Inter plantas a Wallichio sub n. 1683, communicatas unicum invenimus specimen quod ad hanc speciem referendum nobis videtur. A planta Europæa enim nullo modo differt, nisi staminibus calyce subpatulo stylisque brevioribus. Caulis 14—15 pollices altus. Folia ochreæque planè *P. vivipari*. Spica ferè 3 poll. longa, gracilis, angusta, laxiuscula, basi interrupta; bracteæ infimæ inanes; pedicelli bracteis floreque breviores. Calyx subpatulus, sepalis ovalibus obtusiusculis. Bulbilli veri nulli, sed ovarium tumidum globosum, seminis loco pulvere fusco repletum, stylorum basi communi acuminatum, bulbillos primo adspectu simulans.

§ 2. *Rhizoma simplex. Caulis annotinus simpliciter ramosus, ramus quilibet spicâ terminatus.*

3. *P. confusum* nob.: glabrum, spicis cylindricis brevibus compactis, bracteis ovatis brevissimè acuminatis, foliis oblongo-lanceolatis obtusis, infimis in petiolum brevem subdecurrentibus, superioribus sessilibus, basi cordatâ semiamplexicaulibus, omnibus margine crispato-undulatis vix revolutis, utrinque læviusculis.

Crescit cum *P. sphærostachyo*, iisdem locis; v. sp. 4.

Adnot. Hujus plantæ specimina quatuor, æquè inter se congrua ac ab omnibus affinibus diversa, inter plantas a Wallichio sub n. 1683 communicatas invenimus. A *P. affini* Don, differunt: spicis non geminis, floribus illis *P. vivipari* haud majoribus, foliisque.

4. *P. speciosum* (Meisn. l. c. p. 66.) spicis cylindricis brevibus solitariis, bracteis angustè lanceolatis, floribus magnis semipatulis, foliis omnibus ovatis acuminatis cordatis, utrinque nervis venisque prominentibus reticulato-asperis, margine crispato-undulatis, supremis sessilibus, internodiis longissimis, rhizomate horizontali crasso tortuoso ochreato.

Crescit in Napalia! v. sp. oo.

Variat: bracteis obtusiusculis et longè acuminatis, in setam ferè productis; foliis subcoriaceis utrinque glabris, aut, maximè radicalibus, tenerioribus et tum plerùmque pube rarâ brevissimâ, in nervis præcipuè, puberulis, margineque ciliolatis, basi interdum subtruncatis aut ex incisura in petiolum productis.

P. speciosum Meisn. Wallich Cat. n. 1716, *A*!

Adnot. 1. Species nostra a *P. petiolato* Don, (Prodr. Fl. Nepal. p. 70) vix differre videtur, cui tamen subjungere eam non audemus, quamdiù planta Doniana e diagnosi tantùm nobis innotuerit.

Adnot. 2. In Monographiæ nostræ Prodromo (1826) *P. speciosum* sectioni *Persicariarum* (p. 66) falsò adscripsimus;—rectiùs hodiè *Bistortis* adsociatum prodit, cum quibus habitu, et præcipuè vegetationis modo (rhizomate perenni) planè convenit, dum a *Persicariis* ochrearum maximè bractearumque indole recedit. A *P. ovato* Roth cui olim affine credidimus (l. c. p. 67) abhorret inflorescentiâ, staminum numero, etc.

5. *P. ambiguum* nob.: spicis terminalibus geminis, longissimis, strictis, linearibus densifloris, bracteis longè acuminatis basi dilatatis imbricatis, floribus mediocribus inapertis, foliis ovatis vel ovato-oblongis, cordatis sensim longè acuminatis, suprà læviusculis, subtùs nervosis puberulis, margine obsoletè revoluto minutim crenulato-undulato, supremis subsessilibus oblongo-lanceolatis subamplexicaulibus.

In Kamaon legit Blinkworth; v. sp. oo.

P. speciosum Meisn., var. *nervosum* Wallich! Cat. n. 1716, *B*.

A *P. specioso*, cui foliis, ochreis, habitu simillimum, satìs superque distinctum: spicis semper geminatis, longè pedunculatis angustis longissimisque (sine pedunculo 4—5-pollicaribus), bracteis longè acuminatis, floribus dimidiò ferè quàm prioris minoribus, etc.

A *P. amplexicauli* Don, (l. c. p. 70, Meisn. l. c. p. 51) recedit: spicis geminis, caule ubique glaberrimo.

6. *P. oxyphyllum* Wallich! (Cat. n. 1715.): spicis terminalibus geminis, rariùs solitariis axillaribusque, linearibus gracilibus longis, bracteis inconspicuis subremotis, floribus patulis parvis, foliis caulinis sessilibus ovato-oblongis sensim longè acuminatis, basi cordatâ amplexicaulibus, læviusculis, margine subplano ciliolatis integerrimis vel obscurissimè crenulatis.

In Kamaon legit Blinkworth; v. s. sp. plurima.

A *P. specioso* differt: spicis linearibus, longioribus, sæpissimè geminis, floribus ferè duplò minoribus, sepalis angustioribus, bracteis minoribus, foliis tenerioribus sessilibus, apicem versus sensim attenuatis, acumine lineari-oblongo sæpè pollicari. Propiùs accedit ad *P. ambiguum*, recedit autem: spicis debilibus laxioribus brevioribusque, floribus bracteisque minoribus tenerioribus, foliis sessilibus lævioribus. A *P. amplexicauli* Don, differt: spicis geminis, caule ubique glabro, florum colore (pallidè incarnato). An cum *P. ambiguo* nostro mera fortè varietas *P. amplexicaulis?* Quod nonnisi ex autopsia plantæ Donianæ dijudicandum.

§ 3. *Fruticuli trunco lignoso ramoso hypogeo vel epigeo radicante, internodiis contractis, ramis adscendentibus foliosis, annotinis spicigeris erectis, internodiis elongatis. Foliis coriaceis glaberrimis.*

7. *P. vaccinifolium* Wallich! (Cat. n. 1695): spicis subcylindricis laxifloris, floribus patulis, foliis brevi-petiolatis ovatis vel ellipticis utrinque attenuatis lævigatis, trunco epigeo ramosis.

In *Bhuddrinath* legit Blinkworth; v. s. sp. oo.

α obtusifolium nob.: spicis solitariis ramisque abbreviatis contractis, foliis parvulis obtusis confertissimis.

β medium nob.: spicis solitariis, foliis acutiusculis aut breviter acuminatis, ramis suberectis.

γ flagelliforme nob.: spicis in apicibus ramorum sæpè subpaniculatis, caulibus ramisque longissimis debilibus prostratis.

Fruticulus humilis, vix semipedalis, habitu foliisque similis Vaccinio Myrtillo. Folia 5—8 lin. longa, 3—4 lin. lata, margine subrevoluto sæpiùs obsoletè undulata, rete venoso exiguo utrinque vix prominulo. Spica absque pedunculo 1—2-pollicaris. Flores magnitudine *P. Bistortæ*, lætè roseo-carnei. Achenium acutangulum (immaturum) obsoletè granulato-punctatum. Caules in var. *γ* sæpè 2-pedales et ultrà, subsimplices, vix apice adscendentes.

8. *P. Brunonis* Wallich! (Cat. n. 1692.): spicis cylindricis compactis solitariis, floribus magnis subpatulis, achenii acutanguli faciebus tenerrimè punctato-granulatis, foliis lanceolatis acutiusculis, basi attenuatis, utrinque tenuiter reticulato-nervosis, margine revoluto undulato-crispato, trunco ramisque hypogeis apice tantùm epigeo foliosis.

In *Kamaon* legit Blinkworth; v. s. sp. oo.

Fruticulus prostratus, eodem planè modo vegetans ac v. g. Salix herbacea (de qua cfr. DeCand. Organogr. Vég. I. p. 145.) Folia radicalia cum petiolo pollicari 3—4½ pollices longa, ultra medium latissima, 4—6 lin. lata, suprema subsessilia. Caules annotini erecti vix semipedales, simplicissimi, spicâ terminati unicâ 1¼—2 poll. longâ obtusâ 4—6 lin. latâ. Flores densissimi, bracteas abscondentes, iis *P. Bistortæ* majores, nunc pulchrè purpurei, nunc rariùs (exsiccatione tantùm?) pallidè livideque carnei.

Adnot. A proximo et fortè nimis affini *P. macrophyllo*, Don, præcipuè differre videtur foliis margine crispatis, stylis stamina superantibus, etc.

9. *P. Emodi* nob. (vide suprà, p. 51.)

10.? *P. paleaceum* Wallich (Cat. n. 1684). Species in *Pundua* lecta a F. De Silva, nobis penitùs ignota. An hujus sectionis?

Sectio II. AMBLYGONON.

Cotyledones incumbentes, (‖ o) lineares. Achenium semper lenticulare compressum (nunquam triquetrum) obtusangulum, acuminatum, calyce reconditum. Stamina 7, rariùs 5 aut 6. Stylus e medio divaricato-bifidus staminibus brevior, stigmatibus capitatis. Spicæ lineari-cylindricæ confertifloræ. Bracteæ turbinatæ ochreæque foliaceæ, cylindricæ. Folia integerrima. Radices fibrosæ herbæque annuæ. Habitus *Persicariarum.*

11. *P. orientale* L.: spicis paniculatis demùm nutantibus, bracteis acutis 3—5-floris, floribus patentibus 7-andris, glandulis 7 squamæformibus perigynis inter staminum insertiones, achenii basi obtusi angulis rotundatis lineâ notatis, faciebus suborbicularibus depressis lævibus, ochreis recentioribus hypocrateriformibus, foliis ovatis acuminatis in petiolum subdecurrentibus utrinque ochreisque et caule ramoso alto molliter pilosis.

α grandiflorum nob.: spicis semper nutantibus, floribus magnis, lineâ in achenii angulo distinctissimâ, pube omnium partium breviore, rariore.

Hab. in India Orient., Prom. Bonæ Spei (fide specim. in Herb. DeCand.!), in Japonia (Thunb.), Nova Hollandia (R. Brown.),—in hortis nostris ornamenti causâ frequentissimè cultum.—(Inter plantas Wallichianas non occurrit.)

P. orientale L. Meisn., l. c. p. 53 tab. III. K. Iterùm variat floribus purpureis et albis, rarissimè 8-andris, foliis nonnunquam subcordatis, supremis ovato-oblongis, imò lanceolatis.

β pilosum nob.: spicis nonnunquam erectis strictiusculis, floribus mediocribus, lineâ in achenii angulis subobsoletâ, pube ubique copiosiore, longiore, sæpiùs ferè aureo-sericeâ sublanugineâ.

Hab. in Ind. Or. (fide sp. in Hb. DeCand. sub nom. *P. orientalis!*); in Sillet legit DeSilva! et colitur in Hort. Bot. Calcutt. v. s. sp. oo.

P. pilosum, Roxb. Hort. Beng. p. 29 (nomen tantùm). Meisn.! l. c. p. 54. Wallich! Cat. n. 1710! (Spec. ex H. B. Calc.) et 1710, *B* (Sp. ex Herb. Roxb.), *C* (*P. tomentosum*, Herb. Hamilt. ex H. B. Calc.), *D* (Hb. Hamilt. e Dhupari, sub nom. "*P. orientale indicum*"), *E* (Hb. Finlayson.), et 1709, *B*! (specimina falsò ad *P. tomentosum* Willd. relata).—"*Lagunea Cochinchinensis*, Lour. ex Roxb." fide Wallich Cat. sub n. 1710.

Variat floribus rubris (n. 1710) et albis (1709, *B*).

Adnot.—*P. pilosum* Roxb., quod jam anno 1826 in Monographiæ nostræ Prodromo (p. 54) *Polygono orientali* "nimis affine" diximus, huic hodiè conjungimus, postquam sufficientes characteres diagnosticos frustrà quæsivimus. Congruit enim: staminum numero, glandulis perigynis, stigmatibus pileiformibus, achenio, bracteis, ochreis hypocrateriformibus. Varietatis tamen locum tenere meretur, præcipuè ob flores quàm in var. α ferè dimidiò minores, spicas rariùs nutantes, paniculam subfoliosam, nec, ut in var. α, aphyllam, cæterisque. Eodem quoque loco (p. 55), *Laguneam Cochinchinensem* Lour. ad hanc sectionem adducentes, affinitatis quæ hanc plantam inter et *P. orientale* intercedere nobis videbatur sensum saltem jam indicavimus.

12. *P. tomentosum* Willd.: spicis paniculatis linearibus strictis, confertifloris, bracteis obtusis ciliatis, staminibus squamisque perigynis 7, rariùs 6, achenii angulis non lineatis faciebus convexis lævibus, ochreis longis ore erecto longè setaceo-ciliatis, foliis oblongo-lanceolatis utrinque attenuatis adpressè pilosis vel suprà punctato-scabris subtùs sericeo-splendentibus, caule erecto ramoso crasso sulcato infernè glabrescente.

Hab. Secus fluvios regionum inferiorum per plurimas Indiæ Or. terras vulgaris species. Habemus ante oculos specimina lecta in Bengala inferiore 1815,—in Pegu et ripis fl. Irawaddi, 1826,—circa Tavoy (W. Gomez, Septembre 1827), circa Rangoon (Augusto 1826), in Coromandelia (Herb. Wight.!), Travancore (Herb. Madraspat.), etc.

P. tomentosum Willd. (cfr. Meisn. l. c. p. 81.) *ex Wallich!* Cat. n. 1709. (exclusis specim. sub *B*, *G*, et *H* enumeratis; cfr. adnot. 2).

P. tomentosum duas exhibet formas per gradus insensibiles, altera in alteram confluentes, in eodem imò specimine nonnunquam combinatas, et hinc pro varietatibus constantibus vix habendas.

α *sericeo-velutinum*, foliis vel omnibus utrinque, vel senioribus nonnisi subtùs, densissimè velutinis sericeo-splendentibus, bracteis pedunculisque plùs minùs (sæpiùs confertissimè, v. g. n. 1709, *A*) pilosis.

Hujus loci sunt: Wall. Cat. n. 1709, *A* (paucis speciminibus exceptis, de quibus cfr. adn. 2), *C*! (sp. ex Herb. Heynean.), *D*! (plurima specim.), *E*! *F*! ("*P. tomentosum?*" Hb. Madr.), et "*P. glabrum*, var." Herb. Wight.! (N.B. Specimina sub litt. *I* citata, "*P. tomentos.* Hb. Wight." non vidimus.)

β *denudatum*, foliis vix recentissimis sericeo-velutinis, reliquis omnibus utrinquè pube rariore brevissimâ, in superiore pagina sæpiùs ad puncta prominula reductâ, scabriusculis, bracteis breviùs ciliatis pedunculisque glabris.

Huc referas: Wall. Cat. n. 1709, *D*! (partim). *P. barbatum*, *Hb. Wight.* propr. n. 8! et ejusd. Herb. specim. quædam e Vitheesperencoil et Palaar.! (Wall. 1708, G!) et "*P. barbati* var. *Pluckenetii*" *Herb. Madrasp.!* (partim), quod est *P. barbatum*, Burm. Ind. Herb. Madr. ex Wall. Cat. n. 1708, *I*.

Intermedia inter α et β sunt: quædam specim. sub Wall. 1709, *D*, et *P. barb. var. Pluckenetii.*

Adnot. 1. A diagnosi Willdenowiana (Sp. Pl. II. p. 447; Meisn. l. c. p. 81) planta nostra differt: floribus rarissimè 6-andris, stylo nunquam trifido, foliis oblongo-lanceolatis utrinque attenuatis, nec ovatis; cum icone Houttuyniana (Pl. Syst. t. 49. f. 1) a Willdenowio laudata, benè tamen convenit.

Adnot. 2. Quædam specimina sub n. 1709 *A*, pertinent ad *P. stagninum* nobis, n. 16.—N. 1709 *B*, est *P. orientale* β pilosum; vide suprà, n. 11. Sub n. 1709, *D* (Wall. Cat.) habemus specimina inter se incongrua, alia certissimè ad *P. tomentosum* pertinentia, alia aliena, glabrescentia, foliis tenerioribus, subtùs glandulis fuscis punctata, novam speciem: *P. conspersum*, nob. (vide infra, n. 17) constituentia.

Meo errore in Wall. Cat. fol. 214, sub n. 1709 *G* et *H*, synonymis *P. tomentosi* adjuncta sunt: *P. stagninum*, Hb. Hamilt. et *P. Bishiræ*, Hb. Hamilt., quæ species duas proprias novas in *Persicariarum* sectione (vid. infrà, n. 16 et 18) formant. Inter specimina sub n. 1708, lit. I in Wall. Cat. citata plura ad *P. barbatum* β nob. pertinent (vid. infra, n. 19).

Species habitu proximè accedens ad *P. barbatum, stagninum* et *glabrum*, sed ob cotyledones *incumbentes*(!) removenda et sectioni *Amblygono* adsocianda. Folia satìs rigida 3—6-pollicaria, vix pollicem lata. Singulæ spicæ 1—2-pollicares. Flores nunc albi et tum magnitudine *P. orientalis* hortorum nostrorum (cfr. 1709, *A*) nunc carnei vel purpurei, dimidiò ferè minores (cfr. 1709, *C*, *D*, *E*, etc.)

Sectio III. Persicaria.

Cotyledones accumbentes. Achenium lenticulare aut triquetrum obtusangulum, calycem includentem nunquam superans. Stylus semi- 2- 3-fidus stigmatibus exiguis. Stamina 6 aut 8, rariùs 5, rarissimè 4. Flores racemoso-spicati. Bracteæ membranaceæ subinfundibuliformes. Ochreæ cylindricæ, circumscisso-truncatæ. Radices fibrosæ herbæque annuæ, rariùs perennes.

13. *P. glutinosum* Wallich! (Cat. n. 1717): spicis subgeminatis angustè cylindricis densifloris, bracteis muticis glabris pedicellos superantibus, floribus 6-andris semidigynis, calyce 4-fido nervoso extùs glanduloso-punctato, achenio lenticulari ochreis brevissimè ciliatis, foliis lanceolatis inferioribus subtùs incanis suprà canescentibus, superioribus utrinque glabrescentibus subtùs glandulis fuscis densè punctatis, caule adscendente ramoso glabrescente.

Hab. ad ripas flum. Irawaddi, v. s. sp. oo. lecta 1826.

Affine sequenti, sed satìs diversum foliis floribusque glandulosis, achenio nunquam triquetro, faciebus planis tenerrimè puncticulatis. Folia margine scabra sæpiùs eroso- vel undulato-crispata.

14. *P. lanigerum* R. Brown (Prodr. Fl. Nov. Holl. I. p. 419; Meisn. l. c. p. 70!): spicis paniculatis cylindricis densifloris, bracteis pubescentibus muticis pedicellos subæquantibus, floribus 6-andris semi- 2- vel 3- gynis, calyce eglanduloso 4—5-fido, achenio lenticulari rariùs 3-quetro, ochreis canescentibus ciliatis, foliis lanceolatis subtùs incano-tomentosis, suprà ramisque incanis, caule erecto ramoso basi glabro radicante crasso sulcato.

Hab. Secus fluvios variis locis Ind. Or.; habemus specimina lecta in Rohilcund 1825 et Napalia 1821 (Wallich!), in Beloya (Herb. Hamilt.!), et vidimus fragm. e mont. Neelghery dicto (Hb. Wight.!) Occurrit præterea in Nova Hollandia et ad Cap. B. Sp. (cfr. Meisn. l. c.).

P. lanigerum R. Br. Wallich Cat. n. 1714, *A* et *B*! *P. lanatum*, Roxb. (Hort. Beng. p. 29). Herb. Wight.! (Wall. 1714, *C*!) et Hb. Hamilt.! (Wall. 1714, *D*!).

Variat: floribus carneis et rariùs albidis (cfr. n. 1714, D.) Ochrearum cilia, quæ videntur fugacissima, sæpissimè penitùs desunt;—in speciminibus autem Hamiltonianis cæterùm omninò congruis distinctissima, lineam circiter longa, adsunt.

15. *P. viscosum* Hamilt.: spicis brevibus cylindricis densifloris, pedunculis apice densè glanduliferis basi hispidis, bracteis hirtis, floribus 8-andris semitrigynis, calyce 5-fido eglanduloso, achenii ovato-triquetri faciebus convexis, ochreis brevibus laxis ubique hispidis, foliis, caule ramisque hirtis glandulosisque.

Hab. in Napalia, Sillet (Wall.!), Chimbada (Hamilt.!).

P. viscosum Hamilt. in Don Prodr. Fl. Nep. p. 71. Meisn. l. c. p. 73.

α *ramosissimum* nob.: caulibus adscendentibus divaricato-ramosissimis, foliis oblongo- rariùs ovato-lanceolatis obtusis, in petiolum abruptè attenuatis, margine sæpiùs crispato-undulatis, utrinque parcè hispidis glandulosisque, spicis remotis subsolitariis.

P. viscosum Hamilt. Wallich! Cat. n. 1713 (plurima specimina), v. s. sp. oo.

β *vernicosum* nob.: caulibus erectis subsimplicibus, foliis angustè lanceolatis utrinque sensim attenuatis, subacutis, subsessilibus, utrinque adpressè hispidis punctisque resinoso-glandulosis fuscis densè adspersis et quasi vernice obductis, margine planis, spicis approximatis subpaniculatis.

P. viscosum Hamilt. Wallich! n. 1713, *A*! (pauca specimina).

P. hirsutum Herb. Hamilt.! (non Wall.).

Caulis circiter 2-pedalis, pilis strigisve flavicantibus patentibus, circa nodos confertissimis, ubique hirtus glandulisque fuscis pellucidis brevè pedicellatis pilis interjectis densè conspersus. Folia sæpè 3—4 poll. longa, in var. α circiter ½ poll. lata, in β semper angustiora. Spicæ raró ultra poll. 1 longæ inæquales, in var. α plerùmque breviores. Bracteæ interdùm depilatæ sed glanduliferæ fuscæ. Flores rubri, sepalis obtusissimis. Achenium nigrum, nitidum, basi rotundatum faciebus latè ovatis convexis, in statu immaturo minutissimè punctato-striatis.—Var. α et β, etsi primo aspectu satis diversæ, omnibus characteribus specificis optimè conveniunt. Var. β a *P. hirsuto* Walt., cui similis, differt: spicis continuis cylindricis densifloris, omnibus præter flores partibus glanduliferis.

Adnot. Wallich, in Cat. fol. 214 sub n. 1713 adhuc enumerat: *C*, specimina ex Hort. Bot. Calc. (e Napalia introducta) et *D*, sub nom. *P. strigosi* Herb. Hamilt. e Chimbada,—quæ non vidimus. Sub eodem autem nomine habemus specimen ex Herb. Hamilt. (in Goalpara lectum,) quod minimè huc, sed ad *P. microcephalum*, Don, referendum (vid. infra, n. 34).

16. *P. stagninum* Herb. Hamilton.! spicis virgatis geminatis subpaniculatis continuis, pedunculis firmis densè adpresso-pilosis eglandulosis, bracteis imbricatis turbinatis pilosis longè barbatis pedicellos superantibus, floribus 8-andris semitrigynis, calyce 5-fido subeglanduloso extùs pubescente, achenii triquetri faciebus lævibus, ochreis longissimis pilosis longè setaceo-ciliatis, foliis oblongo-lanceolatis utrinque attenuatis adpressè densèque villosis, caule erecto nodoso infernè crasso, glabro.

Hab. In Bengala inferiore (Wall. 1815), et Sadullapur (Hamilt.); v. sp. oo.

P. stagninum Herb. Hamilt.! Wall. Cat. fol. 214 n. 1709 *G*! et quædam specimina sub Wall. Cat. n. 1709 *A*! cum *P. tomentoso* mixta.

Adnot. Primo aspectu *P. tomentoso* simillimum, sed omni jure ab eo separandum, et facilè distinguendum: staminum numero, achenio triquetro, pube foliorum longiore, villosâ (nec, ut in illo, sericeo-velutinâ.) Hâc pubescentiæ indole etiam, præter alias notas, ad amussim differt a *P. barbato*.

17. *P. conspersum* nob.: spicis geminatis gracilibus erectis basi subinterruptis, bracteis turbinatis subimbricatis glandulosis ciliatis 2—4-floris, pedunculisque eglandulosis pilosis, pedicellis exsertis, floribus 8-andris semitrigynis, calyce 5-fido extùs glandulifero, staminibus exsertis, achenio triquetro, ochreis longissimis glanduliferis adpressè pilosis longè barbatis, foliis lanceolatis pube brevi molli adpressâ suprà evanescente pilosis, margineque ciliato-scabriusculis, subtùs glandulis fuscis densè punctatis, caule suberecto gracili eglanduloso infernè glabro.

Hab. Ad ripas flum. Irawaddi inter Kyank-Talong et Yandaboo (Dec. 1826), circa Pegu in ejusdem fluminis æstuario (1826, Wallich!). In Gualpara (Hamilt.!); v. s. sp. oo. Wall. Cat. n. 1709, *D*! specimina quædam cum *P. tomentoso* mixta. Alia habemus specimina, in Wall. Cat. non enumerata, nom. *P. barbati*, schedulæ adfixæ inscripto.—*P. Goyalparæ*, Herb. Hamilt.! e Gualpara (fide specim. unici, Wall. 1708, *F*!) quod paulò tantùm differt punctis foliorum glandulosis minutissimis in foliis superioribus inconspicuis.

Adnot. Differt a præcedente: habitu graciliore, foliis teneris, pube brevi rariore, glandulis;—a *P. viscoso:* caule pedunculisque eglandulosis, pube brevi molli, achenio, spicis duplò longioribus;—a *P. Bishiræ* et *P. barbato:* foliis teneris glanduliferis, etc.

18. *P. Bishiræ* Herb. Hamilt.: spicis pedunculatis geminatis pedunculisque subæqualibus, strictis cylindricis densifloris, bracteis turbinatis imbricatis eglandulosis pubescentibus brevi-ciliatis 3—4-floris, pedicellis exsertis, floribus 8-andris semitrigynis, calyce 5-fido eglanduloso, staminibus exsertis, achenio triquetro lævi nitido, ochreis angustis adpressè pilosis, ciliatis, foliis oblongo-lanceolatis eglandulosis utrinque pube brevissimâ pilosiusculis, margine scabris, caule erecto divaricato-ramoso infernè glabro, ramis densè adpresso-pilosis, spicigeris bis dichotomis.

Hab. in Sukanagur: v. s. sp. 1.

P. Bishiræ Herb. Hamilt.! (Wall. Cat. fol. 214 n. 1709, *H*, ubi ex errore synonymis *P. tomentosi* adscriptum est,) fide speciminis unici in herbario auctoris.

Adnot. Ab omnibus affinibus jam distinguitur ramis spicigeris egregiè dichotomis spicasque omnes ad eandem altitudinem proferentibus, spicis verè cylindricis;—a proximo *P. barbato*, præterea: pedicellis staminibusque exsertis.

19. *P. barbatum* Linn.: spicis virgatis subgeminatis, sæpiùs paniculatis, continuis densifloris, bracteis turbinatis imbricatis fuscis albido-ciliatis 1—2-floris pedicellos subsuperantibus, floribus 6- aut 8-andris semitrigynis calyce 5-fido, achenio triquetro lævi nitido, ochreis laxiusculis longissimè setaceo-ciliatis, foliis oblongo-lanceolatis margine ciliolato-scabris, caule crasso nodoso erecto ramoso, basi radicante glabro.

Hab. Locis humidis per totam Indiam Orientalem vulgatissima species. V. sp. lecta in Kamaon (Blinkworth!); Bengala inferiore, 1815; ad flum. Irawaddi, 1826; in Ins. Penang (G. Porter!) circa Madras (Hb. Wight., Heyn., Madrasp.!); in Mahuyadabar et Bangsi (Hamilt.)!

P. barbatum Linn. Meisn. l. c. p. 80. Wallich! Cat. n. 1708, excl. *F*. (cfr. n. 17 nob.)

α *vulgare* nob.: foliis utrinque pube brevissimâ scabriusculis vel suprà glabrescentibus, nervo medio subtùs, ochreisque adpressè pilosis vel substrigosis.

P. barbatum L. Wallich! Cat. n. 1708, *A*! (partim), *C*! et *D*! *G*! (Spec. ex Hb. Wight.) et "*P. barbatum?* var. *angustifolium*" Herb. Wight. propr. n. 9! *P. Manoramæ* Herb. Hamilt.! e Mahuyadabar, (Wall. Cat. n. 1721, *G*!) et *P. Raptæ*, Hb. Ham.! e Bangsi. (Wall. Cat. 1721, *E*!)

β *hirtellum* nob.: foliis utrinque pube longiore depressâ densiùs pilosiusculis, pedunculis adpressè strigoso-scabriusculis.

P. barbatum L. Wall. Cat. n. 1708 *E*! (sp. ex Hb. Heynean.) *P. barbati* var. *Plukenetii*, *P. barbatum*, Burm. Ind Herb. Madrasp.! (Wall. 1708, *I*!) partim (alia specim. vid. sub *P. tomentoso*).

γ *glabratum* nob.: bracteis obsoletè ciliatis pedunculisque et ochreis glaberrimis, foliis vix margine scabriusculis.—An species?

In Kamaon legit Blinkworth, in Ins. Penang Porter; v. s. sp. oo.

P. barbatum L. Wall. Cat. n. 1708, *A*! (partim) et *B*!

Adnot. Var. α iterùm variat: floribus pallidè incarnatis roseisve et saturatiùs rubris, ochreis pilis mollibus adpressis densè lanuginosis, vel parcè substrigosis, foliis 3—7-pollicaribus, 4—10 lin. latis, caule ramisque glabris vel infra spicas ochreasque plùs minùs adpressè pilosis. Var. β accedit ad *P. stagninum*, distinguitur autem pube breviore rariore, etc. Var. γ habitu admodum similis *P. glabro*, sed benè distincta: foliis, ochreis bracteisque ciliatis, floribus minoribus, achenio triquetro. An ad var. γ etiam referenda specimina in Wall. Cat. sub n. 1708 H, nomine "*P. glabrum*," citata? Hæc enim non vidimus.

20. *P. Poiretii* Meisn.: glabrum, eglandulosum, spicis linearibus strictis subpaniculatis, lateralibus subsessilibus, bracteis turbinatis remotiusculis submuticis pedicellis exsertis, floribus 6—7-andris semidigynis, calycibus 5-fidis, achenii lenticularis faciebus convexis lævibus, ochreis laxis setaceo-ciliatis, foliis lanceolatis longissimis, margine, petiolo nervoque medio setis brevibus albis antrorsùm adpressis scabris, caule erecto subsimplici.

Hab. in Ins. Mauritii legit Dom. Telfair! v. s.

P. Poiretii Meisn. l. c. p. 79, var. α! Wallich Cat. n. 1712! *P. serratum*, Poir.! (haud Linn.) fide specim. autographi in Herb. olim Lamarckiano, nunc Roeperiano.

21. *P. quadrifidum* Hamilt.: glabrum, caule supernè, ochreis, bracteis, calycibus maximèque pedunculis glanduliferis, spicis paniculatis cylindricis densifloris, bracteis imbricatis submuticis, floribus sessilibus 6-andris semidigynis, calycibus 4-fidis, achenii lenticularis faciebus concavis lævibus(?) ochreis brevissimè ciliatis, foliis oblongo-lanceolatis ubiquè glandulis fuscis densè punctatis in nervis margineque scabriusculis, caule erecto ramoso.

Hab. In Chimbada (Hamilt.!) et ad ripas flum. Irawaddi (Wallich!); v. s. sp. oo.

P. quadrifidum Herb. Hamilt.! (Wall. Cat. n. 1711, *F*).

P. glabrum Wallich Cat. n. 1711, *B*! (partim) et *F*! (et fortè hinc inde specimina quædam sub aliis ejusdem numeri literis.)

Species ab omnibus affinibus certè distincta, a proximo *P. glabro* facilè distinguitur: glandulis sessilibus atro-fuscis cauli, ochreis, bracteis calycibusque et confertissimè pedunculis adspersis, spicis brevioribus circiter pollicaribus, acutatis, interdum subsessilibus, bracteis ochreisque brevissimè ciliolatis, calyce 4-fido, foliis in nervo et secus marginem puberulis utrinque eximiò glanduloso-punctatis sæpiùsque vernicoso-nitidis, etc. Optimè convenire videtur cum *P. Persicaria* var. *vernicosa*, Chamisso et Schlecht. in Linnæa, III (1828) p. 43, (planta Chilensi et Brasiliensi), quam non vidisse dolemus. Nostram tamen stirpem pro mera varietate *P. Persicariæ* habere nullo modo possumus.

22. *P. glabrum* Willd.: spicis paniculatis strictis continuis laxè cylindricis elongatis multifloris bracteis subimbricatis muticis, pedicellis exsertis, floribus 6- rariùs 7-andris semi- 2—3-gynis, calyce 5-fido, achenii lenticularis, rariùs triquetri, faciebus convexis tenerrimè punctatis nitidis, ochreis muticis, superioribus internodia longè superantibus, foliis lanceolatis glanduloso-punctatis caule erecto subsimplici, omnibus plantæ partibus glaberrimis et, præter folia, eglandulosis.

Hab. Per totius Indiæ Orientalis regiones inferiores vulgatissima species. V. sp. multa, lecta in Oude 1825, et in ripa fl. Irawaddi ad Pouckto 1826 (Wallich!), ad Mahuyadabar (Herb. Hamilt.!), in Vitheesperencoil inter Oryzam, et in montib. promontorii Maduræ (Wight!) alibique in Peninsula (Hb. Madrasp.!);—exstat præterea in Herb. Roxb., Heynean., et Finlayson. (ex Wall. in litt.), quæ nondum vidimus.

P. glabrum Willd. (haud Don.) Meisn. l. c. p. 78. Wallich Cat. n. 1711! exclus. *F* et, partim, *B*! (quæ sunt *P. quadrifidum* Hamilt. nob. n. 21). *P. tenellum* Roxb. (Hort. Bengal. p. 29.) fide specim. (authentici?) in Herb. ill. DeCand.!

α *obscurum* nob.: foliis obsoletè glanduloso-punctatis impunctatisve.

P. glabrum Wall. Cat. n. 1711, *A*! et (partim) *B*! *D*! (sp. ex Herb. Wight.! partim, vid. adnot.) *H*! (partim). *P. Persicaria* Wall. Cat. n. 1720! (minimè Linn. et auct.).

β *glandulosissimum* nob.: foliis, maximè subtùs, punctis glandulosis fuscis subimmersis densissimè conspersis, pedunculis interdum apice obsoletè glanduliferis.

P. glabrum Wall. Cat. n. 1711, *B*! (partim) et specimina in ripa fl. Irawaddi ad Pouckto, et inter Kyauk-Ta-Long et Yandaboo lecta! (in Catalogo haud citata) specimina denique plurima Herb. Wight. propr. n. 10 et 11. *P. fluviatile* Herb. Hamilt.! e Mahuyadabar (Wall. Cat. 1711) *E*!

Intermedia quasi inter var. α et β sunt: plura specimina Herb. Madrasp. (1711, *H*) et Herb. Wight. (1711, *D*). Utraque forma præterea ludit: floribus modò pallidè, modò saturatiùs rubellis,—et foliis nunc vix 2-pollicaribus 3—5 lin. latis (v. sp. sub α, n. 1711, *A* et 1720) nunc sæpè usque ad 10 poll. longis, 14 lin. latis,—semper acuminatis suberectis, satìs firmis. Glandulæ squamiformes perigynæ inter staminum insertiones horumque numero aquales adsunt. Species ab affinibus facilè distinguenda ochreis longis ore exactè circumscisso nudo bracteisque et foliis haud ciliatis, omnique pubescentiæ vestigio vel levissimo in quavis plantæ parte penitùs deficiente. Proxima, et nimis ferè affinis, *P. acuminato* H. B. K.

23. *P. strictum* All.: spicis laxifloris subcylindrico-linearibus basi interruptis, bracteis brevi-ciliatis glabris sub-bifloris, floribus 5—6-andris semi- 2- rariùs 3-gynis parvis, calyce 5-fido, eglanduloso, achenii lenticularis, rariùs triquetri faciebus lævibus nitidissimis, ochreis ciliatis parcè adpresso-strigosis, foliis lanceolatis linearibusve basi sæpè rotundatis v. subcordatis glabriusculis ciliolatis, caule prostrato v. adscendente basi radicante.

Hab. In Napalia (Wallich, a. 1821). Goalpara et Lalgunj (Hamilt.). Nilghiry (Wight, in cujus Herb. propr. sub n. 7 sp. vidimus sine nom. specifico); v. sp. oo.

P. strictum All. Meisn. l. c. p. 74. *P. minus* Ait. et auct. plur.

α *subcontinuum* nob.: spicis brevibus contractioribus vix basi interruptis, floribus confertioribus.

P. mite (Pers.) Meisn. l. c. p. 75, partim, sc. quoad specimina ex India Or. ibid. memorata! (cfr. adnot. 2). *P. Banka* Herb. Hamilt.! (Wall. Cat. fol. 215, n. 1722, *B*!) *P. Posumbu* (Hamilt.) Wallich! Cat. fol. 47, n. 1722! (haud Don, nec Meisn. l. c. p. 73). *P. tenellum* Blume? Bijdr. II. p. 530.

β *interruptum* nob.: spicis subfiliformibus elongatis pluriès interruptis laxifloris.

Hujus formæ, etiam apud nos rarioris, ex India Orientali nulla hucusque vidimus specimina. Reichenb. ic. t. 493 (bona).

Adnot. 1. Specimina nostra indica flores nonnisi 5-andros acheniumque offerunt constantissimè lenticulare, nec unquam triquetrum. Cæterum cum pluribus plantæ Europææ formis habitu omnibusque characteribus essentialibus ad amussim conveniunt.

Adnot. 2. Sub nomine *P. mitis* Pers. plures species diversas olim confudisse candidè fatemur. Specimina enim, etiam a Wallichio missa, quæ ante sex annos in herbario ill. DeCandollei examinavimus et ad *P. mite* Pers. retulimus, a suprà citatis (præsertim Wall. n. 1722, *A*) nullo modo sunt distinguenda. Quid autem sit verum *P. mite* Pers., quod 8-andrum dicitur, nescimus. Quæ enim hoc sub nomine a cl. *Torrey* missa vidimus specimina (Boreali-Americana) neque in Persoonii diagnosin quadrant, neque *P. stricto* propinqua, *P. Persicariæ* autem simillima sunt.

24. *P. acre* Humb., Bonpl., et Kunth: spicis geminatis v. paniculatis longis subfiliformibus strictis basi interruptis, bracteis remotis obtusissimis angustis 1—3-floris pedunculisque et calyce 5-fido fusco-punctatis, pedicellis exsertis, floribus 8-andris semitrigynis, achenii triquetri faciebus granulato-striatis, ochreis glanduliferis ciliatis, rariùs muticis, foliis lanceolatis pellucido-punctatis fusco adspersis, caule erecto divaricato-ramoso punctato glabro.

Hab. In Bengalia, Napalia (Wallich!), Beloya (Hamilt.!), ad flum. Kaweri in Peninsula (Herb. Madrasp.!); v. s. sp. oo.

P. acre Humb., Bonpl., et Kunth, Meisn. l. c. p. 77 (cfr. adnot.). *P. glabrum* Don? l. c. p. 71 (non Willd.).

α *setigerum* nob.: bracteis subpilosis densè ciliatis, ochreis longè barbatis adpressè strigosis v. glabrescentibus, foliis margine scabris in nervis subtùs scabriusculis glaberrimisve. (Flores lætè rosei densè punctati, panicula multispica.)

P. mite Pers.? var. *majus*, Wallich! Cat. n. 1721, *C*! (partim). *P. Donii*, Wallich Cat. n. 1723, *A*! (non Meisner!)

β *breviciliatum* nob.: bracteis ochreisque glabris brevi-ciliatis, foliis margine scabriusculis utrinque glabris. (Flores albidi v. carnei, spicæ geminæ et solitariæ remotè subpaniculatæ, folia sæpiùs eximiè pellucido-punctata.)

P. flaccidum Herb. Hamilt.! e Beloya (Wall. Cat. fol. 214, n. 1721, *F*!)

γ *submuticum* nob.: bracteis glabris superioribus muticis, inferioribus sæpè brevissimè et remotè ciliatis, ochreis glabris brevi-ciliatis, foliis utrinque glabris margine scabriusculis lævibusve. (Flores albidi v. pallidè carnei basi virescentes, spicæ geminatæ v. solitariæ rariores, vix unquam paniculatæ.)

P. mite Pers. Wallich! Cat. n. 1721, *A*! et partim *C*!

δ *muticum* nob.: bracteis, ochreis foliisque glabris non ciliatis. (Flores pallidè carnei, spicæ raræ subgeminatæ.)

P. Hydropiper Herb. Madrasp.! (Wall. Cat. fol. 214, n. 1721, *H*!)

Adnot. Species, quoad specimina nostra, primo aspectu *P. Hydropiperi* L. persimilis, sed certè distincta: spicis etsi tenuioribus magìs tamen erectis strictioribus, nisi basi nunquam interruptis semperque aphyllis, bracteis arctioribus firmioribus, floribus paullò minoribus nunquam non 8-andris, achenio denique *semper* (in *P. Hydropipere* rariùs) triquetro. Authenticum quidem specimen *P. acris*, H. B. K., hucusque non vidimus; quæ sub hoc nomine in Herb. amici cl. Roeper exstat planta (ab am. D^{re} Schiede in Mexico lecta et a cl. Schlechtendal communicata,) optimè convenit cum varietate nostra β. Cum eadem fortè conjungendum erit *P. serrulatum* Lag. (Meisn. l. c. p. 77.)—Nimis affine etiam nobis videtur *P. oryzetum* Blume, l. c. p. 532.

25. *P. Donii* nob.: spicis subgeminatis paniculatisve longis filiformibus flaccidis interruptis, bracteis arctis longè remotis setoso-ciliatis sub-1-floris, pedicellis exsertis, floribus 8-andris semi-trigynis, achenio triquetro faciebus . . . ., calyce 5-fido subimpunctato, ochreis laxis adpressè pilosis longè ciliatis, foliis lanceolatis oblongis acuminatis, subtùs hispidulis margine ciliatis, caule basi radicante adscendente ramoso.

Hab. In Napalia 1821, et Taong Dong Avæ 1826 (Wallich!), Goalpara (Hamilt.!); v. sp. oo.

α *tenerum* nob.: omnibus partibus flaccidis, caule decumbente pauci-ramoso eglanduloso glabro, foliis utrinque æqualiter attenuatis, lætè viridibus glabriusculis subtùs in nervis tantùm parcè hispidulis, margine molliter ciliatis, spicis raris.

P. Posumbu Hamilt. in Don. l. c. p. 71. Meisn.! l. c. p. 73 (non Wallich Cat. n. 1722!). *P. gracile* Herb. Hamilt. (Wall. Cat. fol. 215, n. 1723, *B*!) *P. Biscatalium* Herb. Hamilt.! (Wall. Cat. fol. 215, n. 1723, *C*! partim.)

β *firmum* nob.: caule firmo suberecto divaricato-ramosissimo, obscurè glanduloso-punctato adpressè hispidulo, foliis lanceolatis acuminatis basi sæpè rotundatis subtùs densiùs hispidis margine asperè ciliatis, spicis terminalibus axillaribusque numerosissimis sæpè paniculatis.

P. Donii Meisn.! l. c. p. 72. Wallich Cat. n. 1723, *A*! specimina plurima. "*P. mite* Pers." Wall. Cat. n. 1721, *B*! *P. Biscatalium* Herb. Hamilt.! partim (Wall. Cat. 1723, *C*!). *P. pubescens,* Blume? l. c. p. 532.

γ *macrophyllum* nob.: caule subsimplici erecto internodiis contractis foliosissimo, foliis oblongis acuminatis basi attenuatis, (quàm in var. α et β duplò majoribus latioribusque), glabrescentibus ciliatis, pellucido-punctatis, spicis terminalibus paniculatis, axillaribus subsimplicibus.

P. Donii Wall. Cat. n. 1723, *A*! plura specimina.

Species satìs polymorpha, proxima *P. acri,* sed abundè diversa: spicis gracilioribus flaccidis, pluriès interruptis, bracteis remotioribus, omnibus partibus obsoletè glandulosis, pubescentiâ fortiore. Var. β inter foliorum pubem puncta exhibet minuta opaca. *P. Biscatalium* Herb. Hamilt. foliis plùs minùs distinctè pellucido-punctatis, et var. γ, foliis egregiè quasi perforatis, a cæteris speciminibus sub α et β memoratis paululùm recedere et transitum quodammodò ad *P. acre* indicare videntur; sed jam spicis flaccidis, *P. Donii* propriis, satìs superque distinguuntur.

Adnot. Vix ullum restat dubium quin *P. Posumbu* Don, cujus quidem specim. authentica non vidi, cum *P. Donii* ut mera varietas sit conjungendum.

Sectio IV. ECHINOCAULON.

Cotyledones accumbentes. Achenium lenticulare v. triquetrum. Stylus e medio 2—3-fidus, stigmatibus exiguis. Stamina 5, 6, aut 8. Calyx corollinus 5-fidus, post florescentiam non auctus. Spicæ laxæ filiformes, aut compactæ subcapituliformes sæpissimè geminatæ. Ochreæ cylindricæ circumscisso-truncatæ, basi strigis v. aculeis retrorsis coronatæ. Folia basi cordato-incisa. Caules debiles, sæpè 4-goni retrorsùm aculeati.

(Sectionis *Tiniariæ* § 2. Meisn. Monogr. Polyg. Prod. p. 64).

Species hujus sectionis (quibus præter sequentes adnumerandæ sunt: *P. sagittatum* L., *arifolium* L., *strigosum* R. Brown, *Meisnerianum* et *Beyrichianum* Cham. et Schlecht.) intermediæ quasi sunt inter *Persicarias* et *Cephalophila, Tiniariis* autem vix affines.

26. *P. muricatum* Meisn.: spicis filiformibus laxis brevibus paucifloris, pedunculis geminatis subdichotomis asperulis, bracteis subciliolatis unifloris, floribus 6-andris semi-trigynis, achenio majusculo triquetro acutangulo faciebus ovatis planis lævibus (?) nitidis, ochreis setaceo-ciliatis, foliis ovatis oblongisve acuminatis obtusis basi sæpiùs subtruncatis v. obtusè subhastatis utrinque glabris, margine nervoque subtùs scabriusculis, caule basi radicante, ramoso, angulato petiolisque asperulis aut aculeolis armato.

Hab. in Napalia (Wallich! 1821); v. sp. oo.

P. muricatum Meisn.! l. c. p. 74. *P. minime,* Wall. Cat. n. 1697! *P. asperulum,* Wallich! Cat. n. 1724!

Proximè accedit ad *P. arifolium* L., cujus specimina boreali-americana tamen a nostra stirpe differunt: achenio semper lenticulari, pedunculis firmioribus, foliis semper verè hastatis. An verò *P. arifolium* Thunb. et Plukenetii (Amalth. t. 398. f. 3) potiùs a specie Linneana boreali-americana separandum et cum *P. muricato* conjungendum? Valdè affine etiam videtur *P. tetragonum,* Blume, l. c. p. 535.

27. *P. pedunculare* Wallich: spicis brevissimis ovatis v. subrotundis, pedunculis geminatis sæpiùs dichotomis, bracteis submuticis, floribus pentandris semidigynis, achenii lenticularis faciebus convexis nitidis impresso-punctatis, ochrearum ore submutico basi tenuiter strigosâ, foliis erectis lanceolatis utrinque attenuatis margine scabriusculo petiolis ochreas subæquantibus, caule sublævi basi radicante.

Hab. In Singapore (Wall. 1822), in Sillet (J. DeSilva), et in montibus Maduræ? (Wight); v. sp. oo.

P. pedunculare Wallich! Cat. n. 1718. *P. muricatum* var. *glabratum* Wall. Cat. fol. 46, n. 1697, 3! (*P. glabratum* Meisn.! in Wall. Cat. n. 6285). *Coccoloba*? Herb. Wight. propr. n. 4! *P. dichotomum,* Blume? l. c. p. 529.

Variat: bracteis muticis et obsoletè ciliatis, pedunculis simpliciter geminatis aut iterùm bifidis, glabris lævibusque aut hispidulis, pilis sæpè glanduliferis, caule teretiusculo aut subtetragono, inermi, infra nodos tantùm strigis debilibus retrorsis prædito, aut in angulis lineisque ubique, maximè tamen infra nodos, strigis fortioribus recurvis v. aculeolis subpatulis punctisve modò prominulis aspero (v. sp. Herb. Wight) internodiis 1—2-pollicaribus, ochreis interdum internodio longioribus et parcè brevi-ciliatis (Hb. Wight) sæpiùs ore muticis, foliis 1½—4½ poll. longis, 3—12 lin. latis, obtusis v. rariùs acutiusculis, rarissimè subsessilibus, nervo medio subtùs lævi aut rariùs basi parcè strigoso. A proximo *P. horrido,* Roxb. paucis tantùm, sed constantibus, distinguendum characteribus, nempè: foliorum margine nunquam scarioso, aculeolisque marginalibus minutissimis *omnibusque apicem* spectantibus, limbo basi nunquam cordato aut sagittato. A *P. muricato* et *P. sagittato* L., jam spicis brevissimis capituliformibus densifloris satìs diversum.

28. *P. horridum* Roxb.: spicis brevissimis compactis cylindricis, rariùs subglobosis pedunculis simpliciter geminatis aut dichotomo-paniculatis divaricatis, bracteis ciliatis, floribus 6- 7- 8-andris, semi-2- 3-gynis, achenio lenticulari v. obsoletè triquetro faciebus convexis granulato-punctatis, ochreis setaceo-ciliatis, foliis deflexis rariùs patentibus lanceolatis basi cordatis v. sagittatis, margine scarioso, cum nervo medio subtùs, petiolo, ochrearum basi cauleque tetragono strigis retrorsis densè aculeatis.

Hab. In ins. Penang 1822, Napalia, 1821 (Wallich), Sillet (DeSilva), Gualpara et Dongtola (Hamilt.); v. sp. permulta.

P. horridum Roxb. (Hort. Beng. p. 29) fide speciminis verosimiliter autographi in Herb. am. Roeperi (olim Lamarckiano). *P. horridum* Herb. Hamilt.! (fide specim. unici, Wall. Cat. n. 1697, *D*!)

P. saggitatum β *Indicum* Meisn.! l. c. p. 65 (cfr. adn. 1); Herb. Hamilt.! (sp. unic. Wall. Cat. n. 1697, *E*!); Don? l. c. p. 73. *P. muricatum* (Meisn.) Wall. Cat. n. 1697, *A*! *B*! *C*! (non Wall. fol. 46 1697, 3, quod pertinet ad *P. pedunculare*). *P. hispidulum* Blume? l. c. p. 535, quod vix differre videtur, nisi "spicis subvirgatis."

Adnot. 1. *P. sagittatum* Linn., Gmel. Sib., et Auctorum Americanorum (fide speciminum quæ vidimus in Siberia variisque Americæ septentrionalis partibus lectorum,) absque dubio propria est species, a *P. horrido* essentialiter diversa: floribus laxè racemoso-spicatis, sæpè axillaribus solitariis, rariùs in capitula collectis, bracteis lanceolatis integris (nec ovatis ciliatis) ochreis muticis, foliis longiùs petiolatis, semper verè sagittatis, margine vix ac nevix scarioso ciliolis rigidis *apicem* spectantibus scabro, totâque plantâ teneriore. *P. sagittatum* Thunb. (Jap. p. 167) dubia nobis est species, potiùs tamen *P. sagittato* Linn. quàm *P. horrido* conjungenda.

Adnot. 2. Varietates constantes distinguendæ non sunt. Magna nostrorum speciminum series variat: pedunculis subsolitariis, geminatisque, utroque nunc simplicissimo nunc patentim dichotomo, in paniculam congestis dichotomo-ramosam (v. g. Wall. Cat. n. 1697, *D*!) plùs-minùs scabriusculis, pilis plerùmque glanduliferis; spicis nunc brevissimis, capitula imitantibus, nunc ovatis cylindricisve, interdum semipollicaribus; foliis subcoriaceis tenerioribusve (v. g. n. 1697, *E*!) glaberrimis aut rariùs passim, subtùs præcipuè, puberulis, basi plerùmque rotundato-cordatis, rariùs obtusè sagittatis, rarissimè truncatis subattenuatisve, apice acutis, rariùs obtusiusculis, plerùmque attenuato-acuminatis, 1½—3½ poll. longis, 3—5 (rarissimè 8) lin. latis, supremis quandoque sublinearibus; petiolo sub-nullo aut vix 2 lin. longo, rariùs semipollicari; strigis aculeiformibus in foliorum margine, nervo subtùs medio petiolo, ochreis cauleque longitudine rigiditate et copiâ variis; caulibus simplicibus vel ramosissimis, nonnunquam basi radicantibus. Num planta scandit? num semper? planè nescimus, nec ex ejus adspectu dijudicare audemus. —Aculeoli in foliorum margine apici proximi *antrorsùm*, cæteri *retrorsùm* spectant.

29. *P. perfoliatum* Linn.: spicis solitariis brevibus densifloris, floribus 8-andris semitrigynis, achenio triquetro, ochreis foliaceis caule perfossis patentibus, foliis peltato-triangularibus obtusis, nervo subtùs medio petioloque cum caule angulato ramoso pedunculisque retrorsùm aculeatis.

Hab. In Napalia (Wallich! 1821), Sillet (F. DeSilva!), Bhawanigunj (Herb. Hamilt.); colitur in Hort. Bot. Calcutt.! v. sp. oo.

P. perfoliatum Linn., (Meisn. l. c. p. 65.), Wallich! Cat. n. 1696, *A*! *B*! *C*!—*D* (in Sillet lect. a F. DeSilva), *E* (Herb. Hamilt.), et *F* (Herb. Roxb.) quæ non vidimus.

Sectio V. CEPHALOPHILON.

Cotyledones accumbentes. Achenium triquetrum, rariùs lenticulare. Stylus semi- 2—3-fidus, stigmatibus parvis. Stamina 8, rariùs 5 aut 6. Calyx corollinus infundibuliformis, rariùs compresso-urceolatus, apice breviter 5- rariùs 4-fidus, achenium maturum superans includens ipsique sæpiùs quasi adglutinatus. Flores subsessiles capitati. Bracteæ paleaceæ v. scariosæ rarissimè ciliatæ.

(Sectionis *Persicariæ* § 2, et *Aconogoni* § 2, Meisn. Monogr. Polyg. Prodr. pp. 82 et 59.)

§ 1. *Didymocephalon*, capitulis geminatis, rariùs solitariis, ochreis circumscisso-truncatis.

30? *P. filicaule* Wallich: capitulis exiguis foliis 1—3 suffultis subsessilibus solitariis geminisque, bracteis paleaceis inconspicuis, floribus 8-andris semi-trigynis achenio triquetro calycem sub-superante, angulis acutiusculis, faciebus nitidulis tenerrimè puncticulatis, calyce profundè 5-fido patulo, ochreis brevibus laxis foliisque utrinque adpressè pilosis ciliatis, caule debili simplici glabro.

Hab. In Emodo ad Gossain Than et Kamoon; v. s. sp. oo.

P. filicaule Wallich! Cat. fol. 86, n. 1694! (var. α et β amplectens). *P. ciliatum* Don? l. c. p. 73 (non Lour.).

α *cæspitosum* nob.: caulibus lævibus cæspitosis vix 4-pollicaribus, foliis exiguis ovatis vel oblongis utrinque attenuatis, capitulis perpusillis paucifloris (vix seminis *Viciæ sativæ* magnitudine).

β *extenuatum* nob.: caule pedali simplicissimo filiformi, strigis exiguis reflexo-adpressis parcè asperulo apice sæpiùs bifido, foliis parvis ovatis, rariùs oblongis basi rotundatis aut abruptè in petiolum brevem attenuatis (capitulorum magn. ut in var. α).

γ *alpestre* nob.: caule læviusculo pedali et ultrà erecto (?) hinc indè simpliciter ramoso, foliis majoribus oblongo-lanceolatis basi cuneatis, rariùs ovatis acuminatis in petiolum abruptè attenuatis, capitulis nonnunquam pisi majoris magnitudine.

Hab. in Gossain Than (Wallich!).

P. alpestre Wallich! Cat. n. 1725!—et specimina nonnulla inter *P. filicaule* Wall. n. 1694!

Adnot. Species distinctissima sequentium nulli verè affinis, immo e sectione fortè removenda, a cujus characteribus discrepat: calyce profundè diviso patulo, achenium vix æquante, achenii angulis subacutis; hinc potiùs sectioni *Aconogono* adnumeranda caulis autem indole ad sectionem præcedentem accedens eamque cum *Cephalophilis* connectens.

31. *P. humile* nob.: capitulis terminalibus axillaribusque solitariis exiguis, pedunculis filiformibus folia superantibus bracteisque paleaceis eglandulosis, floribus exiguis 5- 6-andris semidigynis, achenii lenticularis faciebus convexis granulatis, calyce 5-fido, ochreis laxis hispidulis subciliatis foliis ovato-rhombeis acutis brevi-petiolatis obsoletè pellucido-punctatis cauleque hispidulis.

Hab. in Napalia (Wallich! 1821); v. sp. oo.

P. perforatum Wall. Cat. n. 1700, partim! (haud Meisn.).

Caules e trunco communi brevi radicante plures adscendentes ad summum spithamæi, simpliciter ramosi. Folia sub-semipollicaria, 5 lin. lata, plurima autem dimidiò minora, sæpiùs suborbiculato-rhomboidea brevissimè acuminata, superiora ovata acuminata sessilia. Capitula vix pisi minoris magnitudine. Flores omnium specierum hujus sectionis facilè minimi, albi. Calyx compresso-urceolati laciniis limbi exiguis. Species a *P. perforato,* quocum confusam accepimus, cautè separanda, facilèque distinguenda: capitulis longè pedunculatis semper solitariis, floribus nunquam 8-andris, achenio lenticulari, foliorum formâ, punctis pellucidis raris obsoletis v. nullis, etc. Accedit quodammodò ad *P. Napalense,* achenio scil. lenticulari, sed longè differt, calyce 5-fido, staminum numero, omnibus partibus minoribus, foliis etc.

32. *P. perforatum* Meisn.: capitulis parvis terminalibus geminatis axillaribus solitariis, bracteis subscariosis glanduloso-ocellatis, floribus 8-andris semitrigynis, calyce 5-fido, achenii triquetri faciebus ovatis granulatis, ochreis muticis deciduis, foliis ovatis obtusis basi subitò cuneato-angustatis auriculato-semiamplexicaulibus, eximiè pellucido-punctatis.

Hab. in Napalia (Wallich! 1821.) v. sp. oo.

P. perforatum Meisn.! l. c. p. 83, cum descr. *P. punctatum* Don? l. c. p. 72.

α *hispidulum* nob.: caulibus adscendentibus infra nodos pedunculisque apice pilis patulis v. retrorsis et sæpiùs glandulis pedicellatis hispidulis, foliis utrinque hispidis margine sæpiùs ciliatis, pedunculis axillaribus solitariis aphyllis folio plùs duplò longioribus, bracteis ovatis acutis.

P. perforatum Wall. Cat. n. 1700! (exclusis specim. ad *P. humile* referendis.)

β *lævigatum* nob.: omnibus partibus glabris lævigatis, foliis supremis angustè lanceolatis linearibusque basi hastato-auriculatis, pedunculis plerùmque divaricato-dichotomis, sæpiùs paniculatis, abbreviatis foliosis, bracteis subacuminatis.

P. Napalense Wall. Cat. n. 1701, partim! (non Meisn.)

33. *P. Napalense* Meisn.: capitulis folio sessili cordato suffultis, pedunculis geminatis, bracteis subscariosis ochreisque muticis glabris, floribus 6-andris semidigynis, calycis limbo 4-fido, achenio compresso faciebus convexis eleganter reticulato-scrobiculatis, foliis summis sessilibus oblongis cordato-amplexicaulibus, inferiorum limbo ovato acuminato e basi subcordata in petiolum quasi alatum decurrente auriculato-semiamplexicauli, subtùs glandulis immersis subpellucidis parcè punctato.

Hab. In Napalia (Wall. 1821), Sirmore (Dom. Gerard.), Mont. Neelghiry dict. (Wight!); v. sp. oo.

α *glabrum* nob.: foliis utrinque glabris, capitulis plerùmque distinctè pedunculatis.

P. Nepalense Meisn.! l. c. p. 84. cum descr. et ic. t. vii. f. 2.—Wall. Cat. n. 1701, partim!

β *scabridum* nob.: foliis in nervis subtùs hirtellis margine subciliatis, capitulis sessilibus aut brevissimè pedunculatis. Wallich Cat. n. 1701, partim! "*Kœnigia?*" Herb. Wight. propr. n. 1!

Ab omnibus affinibus differt: calycis limbo semper 4-fido.—Intermedium quasi inter *P. perforatum* et *P. microcephalum*; a priore, cui simile foliorum formâ punctisque subpellucidis, differt: capitulis (pisi majoris magnitudine) folio suffultis geminatis sæpè sessilibus, floribusque majoribus, achenio lenticulari; a *P. microcephalo:* partim iisdem notis et præterea bracteis ovatis acutis sæpiùs acuminatis ochreisque muticis, foliis subtùs punctatis, etc.

34. *P. microcephalum* Don: capitulis nudis, pedunculis geminatis apice hispidulis, bracteis scariosis subciliatis, floribus 8-andris semitrigynis, calycis infundibuliformis limbo 5-fido, achenii triquetri faciebus granulatis, ochreis brevi-ciliatis, foliis impunctatis oblongis acuminatis margine ciliatis in petiolum cuneato-angustatis, petiolo nunc alato semi-amplexicauli, nunc aptero basi appendice foliaceo reniformi ciliato utrinque auriculato.

Hab. In Napalia (Wallich! 1821), Goalpara et Dongtola (Hamilt.!); v. sp. oo.

P. microcephalum (Don) Meisn.! l. c. p. 82, cum descr.

α *subvillosum* nob.: foliis utrinque et ochreis molliter adpressepilosis, caule ubique pilis patentibus fuscis hispidulo.

P. microcephalum Don l. c. p. 72. *P. staticiflorum* Wallich! Cat. n. 1704, *A*!

β glabrum nob.: caule, foliis utrinque ochreisque glabris non ciliatis.

P. staticiflorum Wall. Cat. n. 1704, *B*! *P.*? *panduræforme* Herb. Hamilt.! e Dongtola (Wall. Cat. fol. 214. n. 1704, *D*! non *P. panduræforme* Herb. Ham. e Goalpara, quod v. sub *P. chinensi* nob. n. 39. Wall. Cat. fol. 214. n. 1707, *B*!) *P. strigosum*, Herb. Hamilt.! e Goalpara (in Wall. Cat. non citatum) quod pilis raris transitum ad var. *α* indicat.

Præcedenti et magìs adhuc sequenti valdè affine.

35. *P. Wallichii* Meisn.: capitulis geminatis, pedunculis filiformibus elongatis glabris, bracteis scariosis obtusis muticis, floribus 8-andris rariùs 6-andris semitrigynis, calycis limbo 5-fido, achenii triquetri faciebus granulato-striatis, foliis impunctatis glabris ovatis acuminatis e basi subcordata in petiolum non alatum breviter productis, margine ochreisque brevi-ciliatis, auriculis ad petioli basin subdeciduis, caule glabro.

Hab. In Napalia! v. sp. oo.

P. Wallichii, Meisn.! l. c. p. 83, cum descr. et ic. t. vii. f. 1. Wall. Cat. n. 1702!

Proximum præcedenti et forsan ejus varietas. Constanter tamen ab eo differt: bracteis magìs scariosis, nunquam ciliatis, majoribus, semper obtusis (in illo rarissimè), pedunculis glabris lævibus longioribus, floribus nonnunquam 6-andris, foliorum limbo petiolum nunquam ad basin usque comitante.

36. *P. sphærocephalum* Wallich! (Cat. n. 1703.): capitulis solitariis longè pedunculatis rariùs geminis altero subsessili, bracteis paleaceis acutis muticis, floribus 6-andris semitrigynis, calyce magno 5-fido, ochreis muticis, foliis ovatis acuminatis e basi subcordata in petiolum obsoletè alatum basi nudum decurrentibus, impunctatis margine ciliatis subtùs in nervis parcè hispidulis, caule repente ramis adscendentibus glabris.

Hab. in Napalia (Wallich! 1821.); v. sp. oo.

Caulis debilis, totus prostratus, repens, 1—1½-pedalis et ultrà, rami erecti semipedales. Ochreæ laxæ, laceræ. Folia suprà glabra cum petiolo vix pollicaria, rariùs sesquipollicaria, 4—10 lin. lata, ne suprema quidem sessilia. Appendices petiolares in nostris speciminibus frustrà quæsivimus, indè aut planè deesse aut perfugaces esse videntur. Pedunculi 1½—2 poll. longi, rarissimè geminati, altero brevissimo, apicem versus glanduloso-hispiduli. Capitula cerasi minoris magnitudine. Bracteæ satis teneræ ovato-lanceolatæ acutæ nunquam ciliatæ. Flores pallidè rosei, quàm in *P. Bistorta* paullò majores. Calyx infundibuliformis 5-fidus, laciniis subacutis semipatulis. Stamina calycem subæquantia inclusa. Affine *P. Wallichii*, sed facilè distinguendum: bracteis acutis tenerioribus, floribus capitulisque majoribus, pedunculis solitariis, etc.

37. *P. repens* Wallich! (Cat. n. 1699.): capitulis compactis, pedunculis geminatis inæqualibus sæpè solitariis, bracteis paleaceis acutis muticis, floribus 8-andris semitrigynis, achenii triquetri faciebus obsoletè granulatis, ochreis brevi-ciliatis, foliis ovatis v. ellipticis subacutis, petiolo brevissimo bi-auriculato, caule repente sublignoso ramoso cum ochreis foliisque pube purpurascente hispidulo.

Hab. In Napalia (1821); in Kamoon (R. Blinkworth); in Pundua (F. DeSilva); v. s. sp. oo.

An cum *P. capitato* Don. (Meisn. l. c. p. 82) conjungendum?

α pingue nob.: foliis crassiusculis majusculis (1—1½-pollicaribus) sæpè glabrescentibus, petioli auriculis magnis persistentibus, capitulis cerasi minoris magnitudine, ramis elongatis laxis.

β macilentum nob.: foliis minoribus (ad summum semi-pollicaribus) auriculis petioli parvis fugacissimis, capitulis pisi majoris magnitudine, ramis abbreviatis internodiis contractis.

Wallich Cat. n. 1699, *C*! (partim).

Præcedentium vix ulli arctiore affinitate conjunctum. Folia sæpè egregiè inæquilatera et basi obliqua; capitula, præsertim ante florum evolutionem, sæpiùs ovato-conica, semper densiflora.

38. *P. runcinatum* Hamilt.: capitulis geminatis, pedunculis hispidis, bracteis subscariosis acutis muticis, floribus 6- vel 8-andris semitrigynis, achenio triquetro, ochreis hispidis brevi-ciliatis, foliis lyratis lobo terminali maximo triangulari acuminato, petiolo basi bi-auriculato, caule adscendente ramoso.

Hab. In Napalia (Wallich! 1821); v. sp. oo.

P. runcinatum Hamilt MSS. et Don l. c. p. 73. Meisn.! l. c. p. 85. Wallich Cat. n. 1698!

Species omnium distinctissima, unicum sistens in toto, quantum innotuit, genere exemplum foliorum lobato-incisorum! Caulis sesquipedalis, debilis; folia nunc densè et ferè lanato-pilosa, nunc glabrescentia, 2—6-pollicaria, lobo terminali sæpè 4½ poll. longo, 3 poll. lato, triangulari v. ovato-acuminato, lateralibus utrinque 1—2 obtusissimis v. subacutis, brevibus longioribusve; folia suprema, et nonnunquam recentiora, lobis lateralibus carent; auriculæ petiolares sæpè magnæ et per alam petioli cum folii lobis lateralibus subconfluentes. Capitula magnitudine cerasi, immo majoris, densiflora. Calyx albidus virescens v. rubescens, magnitudine *P. sphærocephali*, infundibuliformis, 5-fidus, laciniis subacutis. Stamina calyci subæqualia stylo trifido dimidiò longiora. Achenium maturum non vidimus.

§ 2. *Corymbocephalon*, capitulis confertis pedunculis subdichotomis corymbosis, corymbis subpaniculatis, bracteis paleaceis, ochreis obliquè truncatis.

39. *P. Chinense* L., nob.: 8-andrum semitrigynum, corymbis simplicibus paniculatisve, pedunculis scabriusculis, bracteolis foliaceis cordatis suffultis, foliis subcoriaceis ovatis v. oblongis acuminatis basi attenuatis cordatisve, plùs minùs pellucido-punctatis, petiolis brevibus basi appendice foliaceo reniformi subdeciduo utrinque auriculatis, caule suffruticoso erecto ramoso glabro.

Habitatio: per totam, ut videtur, Indiam Orient. divulgata species, montium imprimis diligens regiones humidas atque umbrosas. Vidimus specimina permulta, lecta in Napalia, Kamoon, in Srinaghur (Kamroop), in Nilghiry (Dr. R. Wight, et Dom. E. Noton), in Sillet (F. DeSilva), in Taong Dong Avæ (Wallich 1826), in Chittagong (H. Bruce), in Dhupari, et Gualpara (Hamilt.), in Courtallum, mont. Cunniwaddi, promont. Madura, Dindygul (Dr. R. Wight!), Bangalore (Hb. Madr.), alibique in Peninsula (Herb. Heyn.), in China! Japonia! Java! (Herb. DeCand.).

Adnot. 1. Speciem hanc etiam in Brasilia Meridionali gigni maximè dubitamus. Specimini enim, quod a Commersonio circa Montevideo lectum dicitur a Poiretio (Dict. Encycl. Supp. iv. p. 150) in Herb. Roeper. nunc asservato, schedula adjecta (nec adfixa) est *Poiretiana* nec ab ipso stirpis inventore scripta. In eadem Herbarii charta aliud specimen, priori simillimum (fortè eodem loco lectum?) adest cum schedula (non adfixa) etiam Poiretii manu scripta, quæ Sonneratium ut speciminis inventorem indicat. Hinc illius e Brasilia origo minimè certa. Recentiorum præterea peregrinatorum nullus, quantùm scimus, e Brasilia hanc speciem retulit.

α Thunbergianum nob.: foliis ovatis acuminatis basi subtruncatis (rariùs subcordatis) in petiolum plùs minùs productis utrinque glabris v. subtùs in nervis hispidulis, margine plano integerrimo v. obsoletè crenulato-crispato, petioli auriculis perfugacibus, corymbis contractis subsimplicibus, pedunculis geminatis apice dichotomis v. trifidis, eglanduloso-hispidulis v. glabris, capitulis pisi majoris magnitudine, bracteis elongatis, floribus albidis.

P. Chinense (Linn., Meisn. l. c. p. 60!) Thunb.! (cujus descr., et specimen autographum, in Herb. DeC. servatum, a nostris aliquantulùm modò differunt foliis tenerioribus glaberrimis, margine integerrimis. "*P.*? *Chinense*," Hb. Hamilt! (sp. e Dhupari, Wallich Cat. fol. 214. n. 1707, *C*!) *P. polycephalum*, Wallich Cat. n. 1707, *A*! *P. auriculatum*, (Meisn.) Wallich Cat. n. 1705, *I*! partim (sp. ex Herb. Heyn.). *P. corymbosum* (Willd.) var. c. *densiflorum* Blume, l. c. p. 533. *Rumex umbellatus* Houttuyn, Linn. Pfl. Syst. t. 47. f. 3?

β ovalifolium nob.: foliis ovatis v. ovalibus utrinque acuminatis glaberrimis (rarissimè subtùs in nervis puberulis,) margine integerrimo plano v. subrevoluto obsoletè crispato-undulato, petioli auriculis magnis persistentibus (cum folii limbo sæpè confluentibus), corymbis subpaniculatis, pedunculis dichotomis strictiusculis densè glanduloso-hispidulis, capitulis sæpè cerasi magnitudine, bracteis majusculis.

P. auriculatum Meisn.! l. c. p. 59, cum descr. et ic. t. vi. Wallich Cat. n. 1705, *E*! (specim. florib. albidis) *A*! (florib. bracteisque rubellis vel purpurascentibus.) *P. chinense* Herb. Madrasp.! (sp. oo. e Bangalore, florib. bracteisque in aliis rubris, in aliis decoloribus vel albidis, Wall. Cat. fol. 214. n. 1705, *I*!)

Coccoloba indica Herb. Wight. propr. n. 3. et 5 (sp. florib. rubris, albisve, e montib. Dindygul, Courtallum, Nilghiry, Promont. Madura, altitud. 1000—3000 ped., et sp. e montib. Cunniwaddi, florib. carneis, Wall. Cat. fol. 214. n. 1705, *H*!)

γ *brachiatum* nob.: foliis ovatis cordatis, rariùs basi subtruncatis, subtùs in nervis venisque prominulis hirtellis, margine revoluto crispato-undulato vel subcrenato, petioli auriculis minoribus subpersistentibus, corymbis laxè paniculatis, pedunculis gracilibus divaricato-dichotomis trifidisve patulis eglanduloso-scabriusculis, capitulis (piso vix majoribus) bracteisque minoribus (flor. albidis vel rubellis?)

P. brachiatum (Poir.) Meisn.! l. c. p. 59, cum descr. Wallich Cat. n. 1706. *P. auriculatum* (Meisn.) Wall. Cat. n. 1705, *A*! (partim) et partim *F*! (sp. ex Hb. Heyn.) *P. patens* Don? (Meisn. l. c. p. 60) quod nonnisi caulibus decumbentibus differre, et foliis oblongis quodammodò ad var. nostram ε accedere videtur. *P. corymbosum* (Willd.) var. d. *asperum* Blume? l. c.

Adnot. 2. *P. brachiatum* Poir. (fide specim. autographi in Herb. Lamarck., nunc Roeper.) quoad inflorescentiam omninò cum var. nostra γ, quoad folia autem cum var. α convenit.

δ *intermedium* nob.: foliis inferioribus ovalibus, superioribus oblongo-lanceolatis basi subtruncatis vel subitò attenuatis, utrinque glaberrimis, auriculis subpersistentibus sæpè inæqualibus, pedunculis strictiusculis. (Cæt. ut in var. γ).

P. auriculatum (Meisn.) Wall. Cat. n. 1705, *F*! partim (sp. Herb. Heyn.).

Forma egregia, simul colligens var. β, γ, ε, et ζ.

ε *subhastatum* nob.: foliis oblongis lanceolatisque acuminatis basi truncatis subhastatis subcordatisve, in petiolum sæpiùs parùm productis, utrinque glabris vel rariùs in nervo subtùs puberulis, integerrimis planis subcoriaceis, petioli auriculis parvis subdeciduis, paniculâ corymbiferâ trichotomâ sæpè ramosissimâ, pedunculis abbreviatis parcè eglanduloso-scabriusculis, capitulis piso rarissimè majoribus.

P. brachiatum Wall. Cat. n. 1706, *A*, et *B*! (partim). *P. auriculatum* Wall. Cat. n. 1705, *F*! partim (Hb. Heyn.). (Wall. Cat. fol. 214. n. 1707, *B*.) "*P.? panduræforme*" Herb. Hamilt.! e Gualpara, specim. gracile, foliis latioribus insigne. (Haud *P. panduræforme* Hb. Ham. e Dongtola, quod est *P. microcephalum* nob. n. 29). *P. corymbosum* (Willd.) b. *subhastatum* Blume? l. c.

ζ *corymbosum* nob.: foliis oblongis angustis lanceolatisque basi subitò attenuatis integerrimis, nervo subtùs puberulo, corymbis contractis simplicissimis 3-cephalis subgeminatis, capitulis majusculis (fructiferis cerasi magn.) pedunculis brevibus eglanduloso-hispidulis.

P. corymbosum Willd. (Meisn. l. c. p. 60 et 98,) *var. a.* Blume l. c. p. 533. *P. brachiatum* Wall. Cat. n. 1706, *A*! (Pauca specimina.) Huc etiam referendum sp. sine nom. in Herb. Wight. propr. n. 2! in Nilghirry lectum.

Adnot. 3. Wallichius (in lit. dat. d. 27 Mart. 1832) sequentes insuper memorat plantas huc spectantes et in catalogum inserendas, quas non vidimus igiturque suis locis inter varietates suprà enumeratas distribuere non possumus: n. 1705, G. sp. ex Hort. bot. Calcutt. e Taong Dong introd.; H. *P. sinense* Herb. Wight. ex Horto Heyneano. I. *P. Sinense* Herb. Madr. e Courtallum. K. *Coccoloba crispatula*, Herb. Roxb. M. Mont. Sillet, W. Gomez.

Adnot. 4. Species adeò polymorpha ut primo intuitu quot singula specimina tot ferè species distinguere tentaremur. Magnam affinitatem quâ connectuntur *P. chinense*, *auriculatum* et *brachiatum*, jam ante sex annos in Monogr. Polyg. prodromo nostro (p. 60. sub n. 24) indigitavimus, similemque hypothesin seriùs protulit Wallichius (in Cat. Herb. Ind. sub n. 1705, 1706 et 1707). Deindè cl. Blumii descriptiones varietatum *P. corymbosi* Willd. ad conjecturam nos conduxerunt, hanc quoque speciem cum prioribus in unam fortè esse conjungendam, (cfr. Prodromi nostri Append. p. 98). Magnâ denique egregiâque speciminum copiâ quæ summæ liberalitati Ampliss. Procurationis Britannicæ Ind. Or. atque amicitiæ Wallichii debemus, persuasum nobis est, certos limites invariabilesque characteres quibus istæ auctorum species distingui possint, re verâ non dari, sed omnes per formas intermedias invicem conjungi,—quod facilè nobis erit probandum v. g. varietate nostrâ δ, specimine quodam sub Wall. n. 1706, *A*. misso, aliisque. Etsi *P. corymbosi* Willd. specimen authenticum non vidissemus, dubitare tamen vix possumus, quin in var. nostram ζ quadret. Speciei ita reformatæ, nomen servavimus Linneanum quia antiquissimum.

Adnot. 5. Speciem, olim sectioni Aconogono, invitâ naturâ adsociatam, speciebus hodiè reddimus cephalophilis quibus, præter inflorescentiam, verâ affinitate jungitur florum acheniorumque structurâ, auriculis petiolaribus, etc.

Sectio VI. ACONOGONON.

Cotyledones accumbentes latæ, albuminis rima immersæ. Achenium triquetrum acutangulum, maturum calycem superans. Stylus trifidus. Stamina 8. Calyx profundè 5-fidus patens, sepalis planis. Flores racemosi, racemis paniculatis. Ochreis cylindricis ore nunquam setiferis.—Herbæ aut suffrutices radicibus perennibus, regionum globi frigidarum aut calidiorum nonnisi montium incolæ.

(Sectio *Aconogonon* § 1. Meisn. Monogr. Polyg. Prodr. p. 56).

40. *P. molle* Don: paniculis ramosissimis aphyllis, racemis confluentibus strictiusculis, bracteis 3—6-floris pedicellos erectos subæquantibus, calycis parvi laciniis æqualibus angustè ovalibus acutiusculis, ochreis petiolum æquantibus internodio brevioribus, foliis oblongo-lanceolatis brevi-acuminatis subtùs lanato-velutinis, suprà glabrescentibus, caule fruticoso ramoso cum ramis pedunculis ochreisque piloso.

Hab. In Napalia (Wallich! 1821), et Pundua (De Silva!); v. s. sp. oo.

P. molle Don. l. c. p. 72. Meisn.! l. c. p. 56. Wallich Cat. n. 1685, *A*! et *B*! *P. paniculatum* Blume? l. c. p. 533.

Variat: pube omnium partium rariore, breviore, foliis suprà glabris subtùs pilosiusculis hispidulisve.

Adnot. In hac et sequenti specie in fundo calycis observantur glandulæ 8 hemisphæricæ sessiles (purpureæ) hypogynæ cum staminum insertionibus alternantes, illis *Fagopyri* (cfr. Meisn. l. c. t. iv. R. fig. 1 et 2) omninò similes.—Achenii maturi castanei, calycem haud multùm superantis, facies rhombeo-ellipticæ nitidæ, punctis exiguis, lentis nonnisi fortioris ope conspicuis, notatæ.

41. *P. polystachyum* Wallich! (Cat. n. 1686!): paniculis subsimplicibus, racemis folio suffultis pedunculatis discretis gracilibus, bracteis 1—2-floris, pedicellis patulis vel nutantibus bracteâ triplò longioribus, calycis magni laciniis obtusis inæqualibus, interioribus 3 orbicularibus, exterioribus 2 ovalibus dimidiò minoribus, ochreis petiolo internodioque longioribus, foliis oblongis longè acuminatis, caule fruticoso.

Hab. In Kamaon (Blinkworth), et Sirmore (D^{r} Govan et Dom. Gerard); v. sp. oo.

α *glabrum* nob.: omnibus partibus glaberrimis.

β *pubescens* nob.: caule, pedunculis, ochreis, bracteis, petiolisque puberulis vel pilosis, foliis suprà glabris, subtùs velutinis. Valdè affine præcedenti, habitu præcipuè et foliis, sed certè diversum et facilè distinguendum: floribus triplò majoribus, racemorum pedunculis teneris basi floribus bracteisque carentibus, etc.—Achenium maturum non vidi.

Sectio VII. AVICULARIA.

Cotyledones incumbentes. Achenium triquetrum calyce parùm aucto inclusum. Stigmata 3 subsessilia, globosa, discreta. Calyx 5-partitus. Stamina 8, rariùs 5 aut 6. Flores axillares subsolitarii aut fasciculati, in ramorum apice sæpiùs aphyllo nonnunquam spicas mentientes interruptas. Ochreæ teneræ basi tantùm vaginantes, plerumque bipartitæ, laciniis fimbriato-laceris.—Herbæ annuæ (rariùs suffruticulosæ?) radicibus fibrosis (interdum perennibus?)

42. *P. exiguum* Meisn.! (l. c. p. 90): floribus exiguis subsessilibus solitariis geminisve, 5-andris, calycis laciniis subobtusis, achenii minutissimi acutanguli faciebus lævibus nitidis, ochreis bifidis rariùs laceris flores superantibus, foliis flaccidis linearibus subacutis penninerviis planis internodia longè superantibus, caule humili herbaceo filiformi subadscendente sæpè dichotomo-ramoso.

Hab. In Kamaon (Blinkworth!); v. sp. oo.

P. Dryandri (Spr.) Wallich Cat. n. 1691, *D*! specimina plurima.

Adnot. Cum speciminibus a Perrottetio ad flum. Senegal lectis Wallichiana optimè conveniunt. Accedunt quodammodò ad *P. herniarioidis* formam *α*, foliis scil. linearibus flaccidisque, sed differunt caule breviore, floribus minoribus rarioribus subsessilibus, foliis ratione internodiorum longioribus.—Flores omnium generis specierum facilè minimi, forte 6—8-andri.

43. *P. cliffortioides* nob.: fasciculis axillaribus 2—4-floris, pedicellis calyce ochreisque brevioribus, floribus 8-andris, calycis majusculi laciniis subacutis convergentibus, exterioribus subcarinatis, achenii acutanguli faciebus lævibus nitidis, ochreis fuscescentibus, foliis linearibus acutis rigidis margine revolutis suprà canaliculatis, utrinque punctato-asperulis nervo medio subtùs prominulo, caulibus patulo-adscendentibus v. erectis strictiusculis ramosis.

Hab. In Napalia (Wall.), Sillet (DeSilva), et Kamaon (Blinkworth); v. s. sp. oo.

P. Dryandri (Spr.) Wallich Cat. n. 1691, *B*! (partim) *D*! (partim) et præcipuè specimina napalensia in catalogo non citata.

Caules e basi communi plures ½—1½ pedales, in vegetioribus speciminibus infernè lignosi; internodia lineata, ad summum semipollicaria, plerumque multò breviora, in ramorum extremitate brevissima et ochreis, tunc imbricatis, tota abscondita. Folia 3 lin. ad poll. 1 longa acutissima internodiis dimidio duplovè longiora, recentiora ½—1 lin. lata, margine egregiè revoluto, seniora usque ad 1½ lin. lata, nonnunquam plana, nervo tamen subtùs semper prominente. Flores rubelli subsessiles, quàm in *P. aviculari* ⅓ minores, nunquam patuli, in apice ramorum, ob internodiorum brevitatem, adeò approximati, ut spicam foliosam sæpè subcontinuam imitare videantur; stamina interdum 6, rariùs 5; achenium magnitudine et formâ cum illo *P. herniarioidis* var. *α* convenit, apice tantùm, et nonnisi in statu immaturo, obsoletissimè punctato-striatum.

Adnot. Species nullo dubio propria, jam habitu ab affinibus recedens, proxima *P. exiguo* nostro et *P. linifolio* Roth., sed floribus duplò majoribus, foliis rigidis, etc. benè distincta.

44. *P. herniarioides* Delile (Egypt. p. 13): floribus ternis parvis 8-andris, pedicellis calycis longitudine, calycis patuli laciniis planis obtusis, achenii acutanguli faciebus nitidis apice obsoletè punctato-striatis, ochreis brevissimis, foliis sessilibus linearibus obtusis 1-nerviis, caulibus harbaceis procumbentibus basi ramosis.

Hab. Per totam, ut videtur, Indiam Or.; v. sp. multa, lecta in Bengalia inferiore (1816) et Oude (1825 Wallich); Sillet (DeSilva); Sadullapur, Monggir et Dhomdoha (Hamilt.).

α genuinum nob.: caulibus debilibus subsimplicibus ubiquè foliosis, internodiis elongatis folia plerumque superantibus, ochreis albis sæpiùs subintegris folio dimidio brevioribus.

P. herniarioides (Delil.) Sieber Herb. Ægypt.! Meisn.! l. c. p. 89. *P. Dryandri* (Spr.) Wallich Cat. n. 1691, *A*! (partim) *B*! (partim) *C*! (haud *D*, *E*, *F*, *H*, et *K*).

Adnot. 1. Caules stirpis Indicæ e radice satis crassa et ferè lignosa plures flagelliformes, bipedales et ultrà; internodia plerumque semipollicaria, sæpiùs breviora, rariùs 10 lin. longa; folia patula subacutata (in specimine Sieberiano Ægyptiaco apice rotundata) flores pallidè rubelli (in sp. Sieb. albi) sepala externa medio striâ viridi notata. Herba glauci aliquid habere terræque laxè, nec adpressè, incumbere videtur.

β prostratum nob.: caulibus duris crassiusculis divaricato-ramosissimis adpressè procumbentibus, internodiis contractis, foliis ovali-linearibus acutiusculis, margine revoluto nervoque subtùs prominente, rameis internodia superantibus, ochreis flavicantibus densè lacero-ciliatis.

P. prostratum Roxb.! (fide specim. autographi in Herb. DeC.!—Cfr. etiam Cham. et Schlecht. in Linnæa III. p. 51). *P. Dryandri* (Spr.), Meisn.! l. c. p. 88.—Wallich Cat. n. 1691, *A*! (partim); *P. aviculare* Hb. Hamilt.! (sp. e Sadullapur, Wall. Cat. fol. 214, n. 1691, *K*!) *P. aviculare indicum*, Herb. Willdenow. ex Cham. et Schlecht. l. c.—*P. elegans*, Soland. MSS.! fide specim. in Herb. DeC.

Adnot. 2. Incertum relinquimus num fortè inter specimina Roxburghiana (Wall. Cat. n. 1691, I, quæ nondum vidimus) quædam ad *P. indicum* sint referenda?

γ illecebroides nob.: caulibus duriusculis tenuibus, laxè prostratis apice ramisque secundis adscendentibus internodiis contractis, foliis linearibus acutiusculis, internodia immò brevissima vix unquam superantibus, patulis, facilè deciduis, margine revoluto nervoque subtùs prominulo, ochreis brevissimis albis, rariùs flavicantibus, floribus infernè subnullis, in ramorum extremitatibus confertis approximatis spicas cylindricas quasi, v. capitula terminalia mentientibus.

P. aviculare α et *β*, Herb. Hamilt.! et ejusdem Herb. specim. e Dhomdoha! (Wall. Cat. n. 1691, *K*!)

Adnot. 3. Specimina e Dhomdoha foliis internodiisque sæpiùs longioribus, ochreisque albis transitum in var. *α* indicant. Flores pulchrè carnei. Varietas *γ* inflorescentiæ indole accedens ad *P. Paronychia*, Cham. et Schlechtend. l. c. p. 51, minimè tamen cum hac specie confundenda.

Andot. 4. Verum *P. aviculare* Linn. (planta Europæa) quamvis in infinitum diversissimis formis ludens, a *P. herniarioide* nostro facilè tamen distinguendum præcipuè achenii faciebus (quæ in hoc mediò læves nitidæque, apice tantùm obsoletissimè punctato-striatæ) opacis totis egregiè granulato-striatis.

45. *P. indicum* Roth: fasciculis axillaribus 3—6-floris pedicellis longiusculis exsertis, floribus 8- rariùs 6-andris, calyce majusculo pedicello sublongiore; laciniis acutiusculis divergentibus, tribus exterioribus demùm acutè carinatis, achenii angulis subincrassatis faciebus ovatis nitidis apice obsoletè punctato-striatis, ochreis brevissimis laceris subenerviis, caulinis evanescentibus, foliis lanceolatis linearibusve internodio longioribus patentibus acutis caulibus radiatim adpressè prostratis duriusculis ramosis.

Hab. Cum præcedente in tota India vulgaris species; v. sp. multa lecta in Bengalia inferiore (Wall.!), Monkirej (Herb. Madrasp.!), Madras (Herb. Wight.!), alibique in Peninsula (Herb. Wight.! et Heyne!).

P. indicum Roth? Nov. Pl. Sp. p. 208. n. 6. *P. Dryandri* (Spr.) Wallich Cat. n. 1691, *A*! (partim) *F*! (Herb. Heyn.). *P. aviculare* Herb. Wight. propr. n. 12! et Herb. Madrasp.! (Wall. Cat. fol. 214. n. 1691, *H*!)

Adnot. *P. indicum* ab auctore dicitur 6-andrum, quod in unico e magna serie specimine confirmatum vidimus; cæterùm a nostra planta vix differt. Foliorum margo ad lentem minutim scarioso-crenulatus, nec verè serrulatus, ut cl. Roth vult, cernitur.—Nostra stirps variat: caulibus contractis abbreviatis, et elongatis pedalibus apice subadscendentibus, foliis 3—10 lin. longis, ½—1½ lin. latis, lineari-lanceolatis utrinque attenuatis, vel spathulato-linearibus vel oblongis, apice rotundato obsoletè mucronato-acuminatis, rariùs obtusis et margine subrevolutis.—A præcedente, cujus varietati *β* proximum, essentialiter differre nobis videtur, calycis præsertim structurâ et magnitudine dimidiò majore (ferè *P. aviculari* æquali).

Sectio VIII. TINIARIA.

Cotyledones accumbentes. Achenium triquetrum, calyce aucto totum reconditum. Stigmata 3 sessilia incrassata mediò confluentia. Stamina 8. Calycis 5-partiti sepala inæqualia, 3 exteriora dorso carinata, sæpè in alam membranaceam demùm auctam producta. Flores pedicellati nunc axillares fasciculati, nunc racemosi vel paniculati. Bracteæ ochreæque conformes pellucido-membranaceæ, obliquè truncatæ inconspicuæ. Folia cordato-sagittata petiolata. Caules teretes, inermes, volubiles. Radices fibrosæ.

(Sectio *Tiniaria*, Meisn. Mon. Polyg. Prodr. p. 62. excl. § 2.)

46. *P. pterocarpum* Wallich! (Cat. n. 1690): floribus 3—5- fasciculato-axillaribus, nonnunquam in racemos axillares subsimplices breves paucifloros congestis, pedicellis filiformibus fructiferis deflexis

calycem magnum alatum æquantibus, achenii faciebus ellipticis granulato-striatis, caule scandente ramoso.

Hab. In Kamaon! (R. Blinkworth); v. sp. oo.

Planta habitu, foliis calyceque fructifero omninò convenit cum *P. dumetorum* Linn., et *P. multifloro* Thunb., sed ab utraque specie satìs superque differt: achenio egregiè granulato-striato, nec lævi, et florum dispositione.

FAGOPYRUM. *Gærtn.*

Fagopyri sp. Tourn. Mœnch. *Polygoni* sp. L. et auct. plur. *Fagopyrum* Gærtn. *Polygonum*, Sectio *Fagopyrum* Meisn. Mon. Polyg. Prodr. p. 61.

Flores hermaphroditi aut (abortu) diclini. Calyx corollinus profundè 5-fidus, laciniis æqualibus post anthesin marcescens nec auctus, achenio maturo brevior. *Glandulæ* hypogynæ 8 hemisphæricæ sessiles cum staminibus alternantes. Stamina 8. Antheræ versatiles. Styli 3 longi. Stigmata integra, capitata, parva. Achenium triquetrum magnum. Semen liberum. Albumen farinosum bipartitum. Embryo centralis: Cotyledones contortuplicatæ, albumen partim involventes, latæ, palmatinerviæ.—Herbæ foliis cordato-hastatis.

1. *F. esculentum* Mœnch (Meth. p. 290): racemis paniculatis abbreviatis subconfluentibus, achenii faciebus ovato-triangularibus lævibus calyce duplò longioribus, angulis acutis integris, foliis cordatis lobis obtusis v. rotundatis. Annuum.

Hab. In Asia media, ubi, ut apud nos, ut frumentum colitur. V. sp. e Goalpara (Hamilt.—an spontan.?) et culta e Napalia! et Horto Bot. Calcutt.!

Polygonum Fagopyrum L., Meisn.! l. c. p. 61 (excl. synon. *P. dibotrys* Don). Wallich! Cat. n. 1687, *A*! et *B*!. *P. dioicum* Herb. Hamilt.! e Goalpara (Wall. Cat. f. 214. n. 1687, *B*!) fide speciminis unici quod vix differt, nisi foliis superioribus subsessilibus v. sessilibus amplexicaulibus hastatis, floribus sueto minoribus, et, quantùm videre potui, nonnisi staminiferis;—sed etiam in *P. Fagopyro* nostro sativo flores sæpè inveniuntur germine (abortu) destituti.

2. *F. cymosum* nob.: paniculis longè pedunculatis subaphyllis dichotomis trifidisvè, racemis conjugatis subconfluentibus divaricatis, subrecurvis, achenio maturo calyce plùs dimidiò longiore, angulis acutis integris, faciebus ovato-rhombeis apicem versus attenuatis, foliis inferioribus cordato-triangularibus hastatisvè lobis obtusiusculis, supremis oblongo- v. lanceolato-sagittatis, caule orgyali annuo radicibus perennibus stoloniferis.

Hab. In Neetee Himalayæ Tartaricæ, unde in Hort. Bot. Calcutt. introduxit Dom. W. S. Webb (Wall.), Goalpara (Hamilt.), in Napalia ex Trevir.

Polygonum cymosum, Trevir. Delect. Sem. H. Vratisl. 1824, cum diagn. Act. Ac. C. L. Nat. Cur. XIII. pars i. p. 177, cum descr. Meisn. l. c. p. 94. Reichenb. Ic. Exot. cent. II. p. 29. t. 176 (optima!). *P. acutatum*, Lehm. Cat. Sem. H. Hamburg. 1820 et an. seq. (cfr. Cham. et Schlecht. in Linnæa III. p. 39).

P. emarginatum, Wallich Cat. n. 1688! (non Roth). *P. rugosum*, Herb. Hamilt.! e Goalpara, fide specim. unici (Wall. Cat. fol. 214. n. 1688, *B*!)

Adnot. 1. *P. emarginatum*, Roth. differt achenii faciebus latioribus quàm longis, angulis alæformibus. Eodem modo a nostra planta differre videtur *P. emarginatum* Don, l. c. p. 73 quod non vidimus. Possideo *Polygoni cymosi* specimina authentica (e seminibus ab auctore missis culta et a cl. Reichenbach communicata) quæ præcipuè cum specimine Hamiltoniano optimè conveniunt; Wallichiana aliquantulum recedunt paniculâ sæpiùs magìs contractâ, floribus paullò minoribus et foliis plerumque etiam ad pedunculorum bifurcationes occurrentibus, quod verò et in *P. cymoso* hortorum nostrorum sæpiùs observavimus.

Adnot. 2. Num *P. dibotrys*, Don. (Prodr. Fl. Nep. p. 73) quod ex diagnosi et descriptione proximè affine, huic aut sequenti speciei sit conjungendum, disceptari nequit donec achenii nota sit forma, quæ sola certum præbet criterium.

3. *F. triangulare* nob.: paniculis longè pedunculatis dichotomis subaphyllis racemis conjugatis discretis divaricatis recurvis, achenii maturi calyce plùs duplò majoris angulis integris incrassatis obtusissimis, faciebus ovatis, foliis cordato-triangularibus hastatisvè obtusangulis.

Hab. In Napalia (Wallich! 1821), Kamaon (Blinkworth), Sirmore (Dom. Gerard).

Polygonum triangulare, Wallich! Cat. n. 1689, *A*! *B*! *C*!

Præcedenti habitu, inflorescentiâ foliisque simillimum, sed diversum: achenio dimidiò ferè minore (magnitudine circiter achenii *P. tatarici*) angulis basi rotundatis, paniculâ magìs regulariter dichotomâ, rariùs trifidâ, plerumque aphyllâ, foliis omnibus ratione longitudinis latioribus, ne supremis quidem elongatis angustatisvè.—An etiam perenne?

CERATOGONON. *Nobis.*

Flores diclini, masculi et hermaphroditi ex eadem bractea. *Masc.* Calyx corollinus profundè 5-partitus, sepalis æqualibus, oblongis, angustis, obtusis, planis. Stamina 8, antheris versatilibus (structurâ *Polygoni*). *Hermaphr.* *Calyx* 6-sepalus; sepala 3 exteriora coriacea post anthesin aucta, dorso acutè carinata in tubum connata trigonum mediò dilatatum apicem et basin versus æqualiter acutèque attenuatum, apice brevissimè 3-dentatum, angulis e medio in spinam patentem acutam excrescentibus; sepala 3 interiora petaloidea, exterioribus alterna inter eorum dentes e tubo exserta, patula, marcescentia. *Stamina* 8, perfecta. *Styli* et *stigmata* . . . . *Achenium* calycis tubo inclusum eique accretum, 1-loculare, 1-spermum. *Semen* spermodermide lævi fuscâ tectum, formâ calycis tubo respondens, angulis mediò in dentem obtusum productis. *Albumen* farinosum. *Embryo* centralis rectus; radicula supera; cotyledones planæ sibi invicem adpressæ, latè ovales, obtusæ, 3-nerviæ, inter angulum seminis et mediam ejus faciem huic angulo oppositam expansæ, hinc albumen in duas partes secantes.—Herba (verisimiliter annua) caule adscendente, tereti, sublineato, pauci-ramoso; ochreis cylindricis, ore circumscisso setaceo-ciliatis; foliis ex ochreæ media v. superiore parte petiolatis, limbo ovato-triangulari v. hastato, acuto, abruptè in petiolum cuneato-angustato, crassiusculo, plano v. margine sub-undulato-crispato, utrinque et ochreis cauleque brevissimè puberulis v. glabriusculis; spicis solitariis, laxissimis, filiformibus, extra-axillaribus! (scil. infra ochreæ basin ex ipso ramo ortis folio oppositis); bracteis cylindricis (formâ omninò ochrearum) ciliatis, 3-floris, remotis; pedicellis bracteâ subduplò longioribus, sub flore articulatis, demùm deflexis. Unica species:

C. atriplicifolium nob. (Flores masc. videntur pallidè rosei.) Patria ignota. Colitur in Hort. Bot. Calcutt.! undè habemus sp. 3. *Polygonum atriplicifolium* Wallich! Cat. n. 1719!

Adnot. Genus, ut ex charactere dato patet, distinctissimum. Habitu, ochreis præcipuè et spicis, accedit ad *Polygona* quædam sectionis *Persicariæ*, calycis structurâ quodammodò ad genus *Emex* Neck. (*Rumicem spinosum* L.), a quo autem differt: sepalis 3 interioribus florum ☿ petaloideis, embryone centrali, inflorescentiâ, ochreis, etc. —Quàm maximè dolemus, tam pauca tantùm exstare hujus stirpis specimina, eaque tam pauciflora, ut non omnes florum partes disquisitioni nostræ subjiciendas habuissemus. Flores ☿ in statu fructifero solummodò vidimus, stigmatibus jam orbatos, sepalisque petaloideis jam marcidis; neque penitùs certi sumus, num in flore ☿ semper 8 stamina adsint, numve interdum 6.—Pedunculi reverà ex ochreæ tubo nasci sed usque ad nodum proximum superiorem cum caule connati esse videntur, unde spicæ *infra* ochream nasci ideoque infra axillares oppositifoliæ facilè creduntur. *Nomine:* ex κερας (cornu) et γωνος (augulus) calycis fructiferi formam indicare voluimus.

RUMEX. *Campdera.* *Rumicis* sp. Linn.

Flores hermaphroditi aut diclines. Calyx 6-partitus; sepala duplici serie, plerumque inæqualia, interiora demùm aucta erecta marginibus sibi invicem adpressa acheniumque inter se recondentia (valvæ dicta) exteriora reflexa. Stamina 6 simplici serie, sepalis externis geminatim opposita. Antheræ basi adfixæ; filamenta brevissima. Styli 3 patentes. Stigmata penicillata. Achenium liberum triquetrum, coriaceum. Embryo lateralis albuminis angulo incumbens.

§ 1. *Floribus hermaphroditis.*

1. *R. setaceus* Hamilt.: glaber, verticillis densifloris discretis folio suffultis, valvis ovatis acuminatis acutis omnibus graniferis, margine basi subulis 1—2, valvâ sæpè longioribus, rectis patentissimis armato, foliis lanceolatis acutis utrinque attenuatis, superioribus planis, radicalibus oblongis subundulatis, supremis linearibus, caule divaricato-ramoso sulcato.

Hab. In Bengalia inferiore (Wallich 1820); Sillet (F. DeSilva); Rungpur (Hamilt.); v. sp. oo.

R. setaceus Herb. Hamilt.! (Wall. Cat. n. 6287!). *R. Roxburghianus.* Wallich (partim) Cat. n. 1731, specimina quædam sub *A* et *B* enumerata.

Affinis præcipuè *R. Loureiriano* Campd., *R. Ægyptiaco* et *Marschalliano* Rchb., qui differt: toto valvarum margine, nec basi tantùm, subuligero; et, habitu præcipuè, *P. maritimo* Linn., a quo distinguitur eodem charactere, subulis nunquam versus apicem valvarum vergentibus, sed angulo recto a margine divergentibus, calyce fructifero duplò ferè majore.

2. *R. Napalensis*, Spreng. (Syst. II. p. 159): glaber, verticillis densifloris remotis, fructiferis subaphyllis, valvis ovato-oblongis obtusis reticulato-nervosis, unicâ obsoletè graniferâ, margine subulato-fimbriatis apice tantùm nudis, subulis valvæ latitudine subbrevioribus apice recurvis, foliis acutis subundulatis, inferioribus ovato-oblongis basi cordatis, radicalibus oblongis subcordatis, summis lanceolatis, caule divaricato-ramosissimo sulcato, crasso.

Hab. In regionibus editioribus, Napaliæ, Gossain Than (Wallich!), Kamaon (Blinkworth); Nilghirry (Noton et Wight!) ubi ex schedula Wightiana ad altitudinem 7000—8000 ped. usque adscendit: v. sp. oo.

R. Napalensis (Spr.) Wallich! Cat. n. 1728! *A, B, C, D. Rumex*, n. 13, Herb. Wight propr.!

Adnot. Inter *Rumices* ex autopsia nobis notis *R. Napalensi* proxima species est *R. pulcher* L., qui facilè tamen distinguitur: valvulæ grano egregio (nec obsoleto vel subnullo) margineque magìs dentato-inciso quàm subulifero, dentibus non hamatis.—Non vidimus *Rumicem hamatum* Trevir. (Act. Ac. Leop. Carol. XIII. pars i. p. 174), quem proximè quidem affinem, sed benè distinctum credimus valvis acutis omnibus graniferis.

3. *R. Wallichianus* nob. (haud Roem. et Schult.): glaber, verticillis densifloris folio suffultis, superioribus confluentibus, valvis ovatis acuminatis acutis integerrimis, omnibus æqualiter graniferis, foliis acutis, inferioribus oblongis margine subundulatis, superioribus lanceolatis planis sublinearibusque, caule crasso-sulcato divaricato-ramoso.

Hab. In Bengalia inferiore (1820), Oude (1825, Wallich!); Sillet (F. DeSilva!) Borybari (Hamilt.!); et colitur in Hort. b. Calcutt. (Herb. Hamilt.!), v.sp. oo; etiam in Gualpara a Hamilt. lectus, quem non vidimus, indicatur in Wall. Cat. n. 6288.

R. Roxburghianus Wallich! Cat. n. 1731, *A*! et *B*! (partim) *C*! (haud Roem. et Schult.) *R. comosus* Herb. Hamilt.! Wall. Cat. n. 6288! (non Forsk.) *R. acutus* Roxb., haud Linn., ex Wall. l. c.

Adnot. 1. In addendis in Wall. Cat. fol. 214. sub n. 1731, enumerantur: *D. Rumex acutus*, "planta bengalensis," Herb. Roxb., et *E*, Herb. Wight.! quæ specimina non vidimus.

Adnot. 2. *R. Roxburghianus* Roem. et Schult. (Syst. VII. p. 1402) est *R. tuberosus* Roxb. MSS. in Herb. Willd.,—a planta Wallichiana abhorrens: "valvis dentatis non graniferis."—*R. comosus* Forsk. (Fl. Ægypt. Ar. p. 76) species est valvis longè subulato-dentatis valdè, ut videtur, ad *R. setaceum* Hamilt. accedens.

Adnot. 3. Nostra species proximè affinis est *Rumici acuto* L. β Roem. et Sch. l. c. p. 1408, sed diversa præcipuè valvis acutis. Habitu adeò similis *R. setaceo*, ut distingui vix queat nisi valvis integerrimis.

4. *R. dentatus* Campd. (Monogr. Rum. p. 81): glaber, verticillis densifloris discretis folio suffultis, valvis ovatis subacuminatis acutis omnibus grossè graniferis, granis toruloso-punctatis, margine subintegro v. utrinque 1—2-dentato, dentibus obsoletis v. granuli latitudinem subæquantibus, foliis subobtusis, inferioribus oblongis subcordatis, superioribus lanceolatis sublinearibusque basi subitò cuneatis margine sæpè crispato-undulatis, caule ramoso gracilescente lineato.

Hab. In Peninsula Ind. Or.! (Herb. Heyn.!) et colebatur in Hort. b. Calcutt. (Hamilt.!); v. sp. oo. *Rumex dentatus* Murr. Wallich! Cat. n. 1730! "*R. obtusifolius?*" Herb. Hamilt.! Wall. Cat. n. 6289!

Adnot. R. dentatus Murr. (Comment. Goetting. 1774. p. 46. t. 10) a nostra planta differt: "valvis setaceo-dentatis,"—neque congruit icon *Dillenii* (Elth. t. 158. fig. 191), quæ valvas ostendit utrinque 3—4-dentatas, grano ratione totius valvæ quàm in nostra stirpe minore præditas; magìs adhuc abhorret valvularum figurâ qualem exhibet *Houttuynii* tab. 47. f. 2.—*Campderæ* contra diagnosis et descriptio in nostram plantam satis benè quadrant, quæ vix differt, nisi valvularum dentibus duobus nunquam pluribus (nec 2—3, ut indicat Campd.) et foliis superioribus basi cuneatis, interdum ferè subhastatis, qualia a Murrayo *R. dentato* suo tribuuntur.

5. *R. vesicarius* Linn. (Sp. Pl. I. 479): glaber, racemis pedunculatis aphyllis, sæpè paniculatis, bracteis 2- raro 3—5-floris, valvis maximis membranaceis pellucidis reticulato-venosis suborbicularibus utrinque emarginatis, nudis, integris, omnibus mediò longitudinaliter plicatis, marginibus extrorsùm reflexis, foliorum succulentorum limbo ovato-triangulari obtuso e basi truncata v. subcordata in petiolum longum producto, caule erecto subramoso.

Hab. In Malagula (fide Hb. Hamilt.)—Vidimus nonnisi culta specimina, in Herb. Wight.! Hamilt.! et Wall.!—exstat quoque in Herb. Heyn., loco nat. nullo indicato.

R. vesicarius L. Wallich Cat. n. 1732! (sp. ex Herb. Heyn.) *B.* (Herb. Madr.) *C.* (ex Hort. b. Calcutt.) *D*! (Hb. Hamilt.) *R. vesicarius* Herb. Wight. propr. n. 14!

Adnot. Specimina Indica omninò conveniunt cum iis quæ in variis Europæ hortis legimus.—Pedicelli plerumque gemini, nonnunquam autem 3—5 subverticillati.

§ 2. *Floribus diclinis.*

6. *R. hastatus* Don (Prodr. Fl. Nepal. p. 74): glaber, glaucus, racemis paniculatis, pedicellis subverticillatis, verticillis 2—10-floris discretis, valvis pellucido-membranaceis reticulato-venosis orbicularibus integris, apice subemarginatis, basi inciso-cordatis, omnibus obsoletè graniferis, unicâ plicatâ, foliis longè petiolatis hastato-linearibus, laciniis indivisis apice subcrenulatis, lateralibus sursùm falcato-inflexis obtusis, mediâ rectâ acutâ, caule lignoso ramisque patentibus teretibus lineatis.

Hab. In Kamaon (Blinkworth) et Dheyra Dhoon (Wallich! 1825); v. sp. oo.

R. hastatus Don. Wallich! Cat. n. 1729! *A, B,* et *C.* (Herb. Wight.)

Adnot. A *R. Acetosella*, cui valdè affinis, differt: caule lignoso, valvis obtusissimis, sæpiùs emarginatis; a simillima *var. γ multifida* DeC. et a *R. intermedio* DeC. Fl. Fr. iisdem notis et laciniâ foliorum mediâ lateralibus parùm longiore, lateralibus obtusis indivisis, etc.—Cl. Don radicem repere putat caulemque dicit palmarem. In nostris autem speciminibus singuli jam rami sæpè sesquipedales sunt. Caulis penna anserina crassior dense-lignosus, (an prostratus horizontalis?) ramos sæpè subfasciculatos emittens, radiculas autem nullas.

OXYRIA. *Hill. Rumicis* sp. Linn.

Flores hermaphroditi. Calyx 4-sepalus duplici serie; sepala interiora majora erecta achenio adpressa, non aucta, exteriora reflexa. Stamina 6. Filamenta longa. Antheræ dorso adfixæ, versatiles. Styli 2 brevissimi. Stigmata penicillata. Achenium membranaceum, compressum, angulis alam periphericam formantibus. Embryo centralis; cotyledones planæ, faciebus angulos achenii spectantibus. Albumen farinosum.

1. *O. elatior* R. Brown! (in Wallich Cat. n. 1726!) caule aphyllo elato supernè ramoso, racemis paniculatis, verticillis 6—12-floris, pedicellis fructiferis reflexis achenio subbrevioribus, sepalis interioribus obovato-subspathulatis obtusissimis, achenii suborbicularis alis

membranaceis transversè venosis utrinque profundè cordato-incisis, foliis radicalibus longè petiolatis reniformibus margine obsoletè crispato-undulatis.

Hab. In Emodo Kamaonensi (Blinkworth !); v. sp. oo.

Oxyriæ reniformi Hook.: nimìs ferè affinis, et vix differt nisi staturâ altiore, sesquipedali, racemis longioribus magisque paniculatis, sepalis interioribus (i. e. erectis) apice dilatatis, obtusissimis, subtruncatis, paullò majoribus, fructûs alâ apice basique ad semen usque incisâ (in *O. reniformi* autem subintegrâ v. basi tantùm cordatâ).

RHEUM. *Linn.*

Flores ☿. Calyx 6-partitus; sepala duplici serie, marcescentia nec aucta. Stamina 9; antheræ versatiles. Stigmata 3 subsessilia, integra, patula, discoidea. Cariopsis alato-triquetra. Embryo centralis; cotyledones planæ marginibus cariopsidis facies spectantibus. Albumen farinosum.

1. *R. Emodi* Wallich! racemis axillaribus subsimplicibus sæpiùs aggregatis, terminalibus paniculatis, fructiferis strictis, pedicellis subternis fructu maturo dimidiò brevioribus, floribus magnis, sepalis latè ovalibus obtusis, cariopsidis magnæ faciebus oblongo-ovatis basi subcordatis apice integris obtusissimis, rariùs subemarginatis, foliis integris obsoletè undulatis in nervis subtùs margineque hirtellis, junioribus suprà adpressè hispidulis, caule supernè pedunculisque puberulis.

Hab. In Tartaria usque ad Ladak, lat. bor. 37° (Moorcroft); in montib. Himalayæ, usque ad alt. 16,000 ped. (Gerard); in monte Choor, lat. bor. 30°, alt. 9000 ped.; ad Gossain Than; in Kamaon (lat. bor. 31°—40°) usque ad altitud. 10,000 ped. (Blinkworth !); in Neetee Himalayæ, Tartariæ confin. (W. S. Webb). *Rheum Emodi* Wallich! Cat. n. 1727, *A* et *B*! *C. R. australe* Don Prodr. Fl. Nep. p. 75 et in Jameson Edinb. New Philos. Journ. March 1827, p. 304. *R. Emodium* Wall. ex Nees et Ebermaier Handbuch d. Med.-Pharm. Bot. Band I. 1830. p. 455.

Folia nunc subrotunda, nunc ovata oblongave; vidimus nonnisi caulina; a cl. Don l. c. dicuntur subrotundo-cordata, plana, etc. Fructu proximè accedit ad *Rh. Ribes*, recedit autem faciebus angustioribus minùs cordatis, pedicellis brevioribus parciùs aggregatis, etc. Radix hujus speciei verum præbere dicitur *Rhabarbarum officinale*. De ejus historia et usu cfr. Don apud Jameson l. c. Transact. of the Med. and Phys. Soc. of Calcutta, III. p. 451. Edinb. Med. and Surg. Journ. No. 96. Jul. 1823. p. 168—171. Nees et Ebermaier l. c. Journal de Pharmacie (1827.) t. XIII. p. 344.*

Polygonearum species generis ignoti.

"*Polygonea sedifolia*" Wallich! Cat. n. 6286.

Hab. in Emodo prope Gossain Than (Wallich !).

Specimina floribus fructibusque penitùs deficientibus quoad genus haud determinanda.—Planta humifusa. *Caulis* flexuosus ramosus, teres, duriusculus, radiculas emittens capillares, hinc indè ipse subterraneus; internodia ad summum semipollicaria. *Ochreæ* internodium subæquantes, rubro-membranaceæ, cylindricæ integræ laxæ basin versus sensìm angustiores, ore subobliquè circumscisso, mutico. *Folia* alterna (crassiuscula?) obsoletissimè 3-nervia, ovalia, v. oblongo-spathulata, plerùmque obtusissima, seniora marginem revolventia, hinc demùm linearia, petiolo brevi in ipso tubo ochreæ inferioris latente. Ad ramorum ortum, nec non in eorum extremitate folia sæpiùs 3—5 v. plura fasciculatim exserta videntur.—Ochreæ foliaque pilis densis, simplicibus, albis, mollibus, subcrispatis, vix adpressis tecta.

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* Etiam conf. Royle, *Account of the Bot. Gard. at Saharunpur* in Journal of the Asiatic Soc. of Calcutta, No. 2 (Feb. 1832), p. 13.—N. W.

AIKINIA.

CALYX tubulosus, quinquefidus, æqualis. Corolla hypogyna, irregularis, limbo patente, labio superiore bifido, inferiore tripartito laciniis subæqualibus. Filamenta 4: duo superiora fertilia! antheris cohærentibus; inferiora sterilia. Stigma capitatum. Capsula calyce cincta, unilocularis, circumscissa! Placentæ 2 liberæ, pedicellis parietalibus adnatis insidentes, undique seminiferæ. Semina erecta, funiculis elongatis, exalbuminosa.—*Brown MSS.*

Systema Linneanum: *Diandria Monogynia.*

Ordo naturalis: *Gesneriaceæ*, Richard et Juss. in Annal. du Mus. vol. 5. p. 427; Tribus *Cyrtandraceæ*, Jack in Linn. Transact. vol. 14. p. 23.—*Brown.*

Herbæ annuæ, pilosiusculæ. Folia cordata, subdentata; inferiora, dum uno plura, alterna, terminalia subopposita. Spicæ unilaterales, circinales, novellæ capituliformes, fructiferæ corymbosæ, pedunculatæ, rachi hinc pedicellis subduplici serie confertis ebracteolatis, indè foliolo cucullato subrotundo involucratâ. Flores (*Erini*) cœrulei.—*Brown.*

Genus hoc, annuente illustri conditore Roberto Brunone, dedicavi amico æstumatissimo Arthurio Aikin, armigero, Societatum Linneanæ et Geologicæ socio, egregiæque Societatis Artium quæ Londini est secretario summumque decori; viro profectò erudito, ingenioso, morumque suavitate præcellenti, pluribus scriptis celebri, botanices cultori ardenti et strenuo.

The genus here described evidently belongs to *Cyrtandraceæ*, and is most nearly related to *Antonia*, in my account of which, given in the forthcoming first part of Dr. Horsfield's *Plantæ Javanicæ Rariores*, I have entered at some length into the subject of the structure and affinities of *Cyrtandraceæ*, and the natural family (*Gesneriaceæ*) to which I have referred that tribe. It is here, therefore, only necessary to add that *Antonia*, of which *Wulfenia obliqua*, Wallich Tent. Flor. Napal. vol. 1. p. 45. t. 35, may be taken as the type, was found in 1803, during Captain Flinders's voyage, near Coepang in the island of Timor, and being considered a very distinct genus from any then described, was first named *Loxotis*, but afterwards (in 1822), at the request of my lamented friend and fellow-traveller Ferdinand Bauer, was called *Antonia*, it being intended to introduce a figure of the Timor plant under that generic name in a wreath, ornamenting a bust or portrait of the late Baron Jacquin.—*Brown.*

AIKINIA BRUNONIS, *Wall.* Tab. 288.

Foliis petiolatis, pedunculis solitariis pluribusve seriatis.—*Brown.*

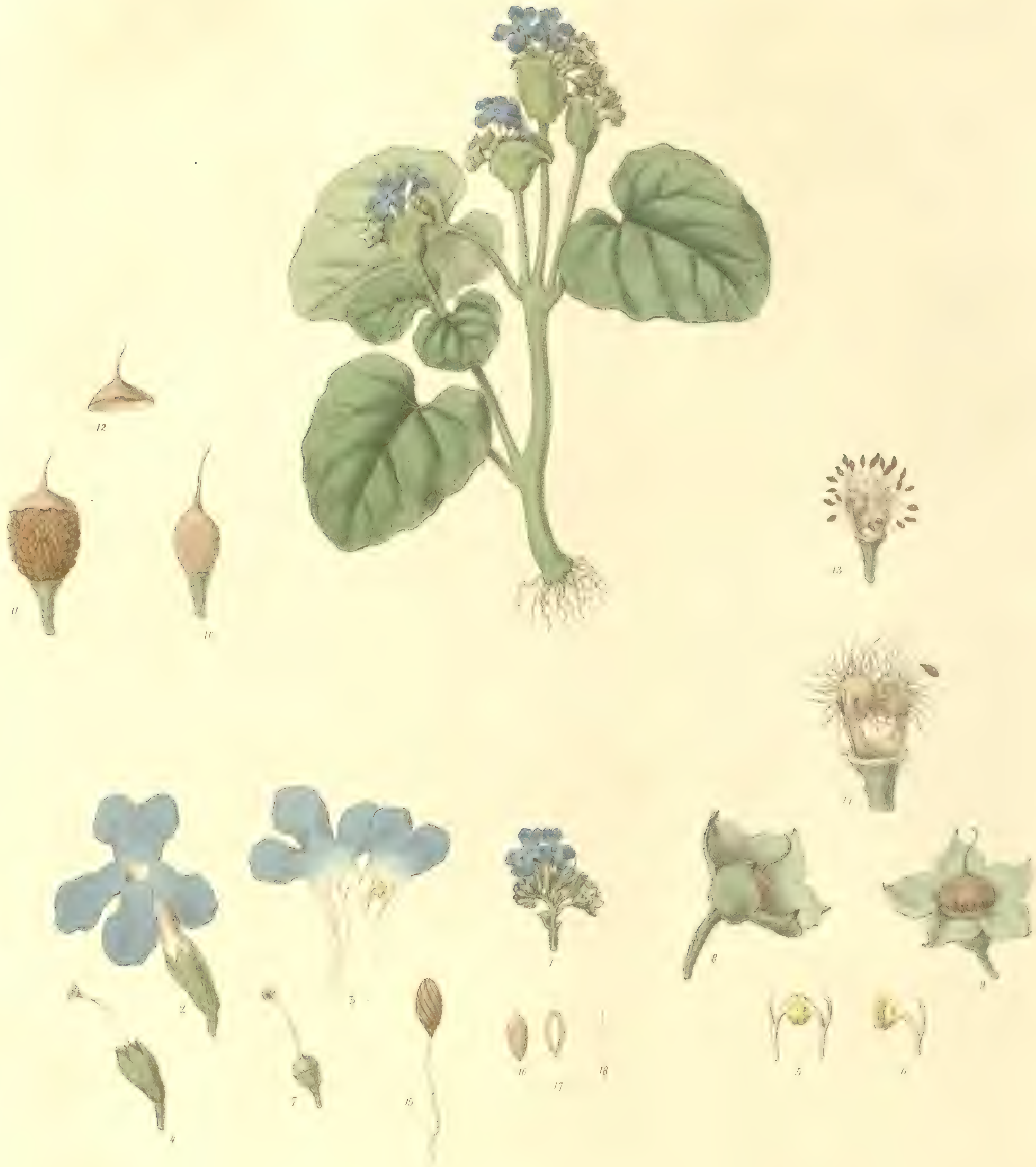
Habitat in rupibus subumbrosis prope Coepang in insula Timor; lecta florida et fructifera initio Aprilis anno 1803. —*Brown.*

Radix annua, fibrosa, brevissima. Caulis teres, succulentus, tenuissimè pubescens pilis brevibus acutis; 2—4-pollicaris, sæpiùs parùm ramosus, nunc simplicissimus. Folia petiolata, cordata, subovata, obtusa, repando-dentata, dentibus brevissimis, subsesquiuncialia, inferiora alterna, terminalia quandoque subopposita; omnia super viridia, pilis brevibus acutis sparsis scabriuscula; subter lætè viridia, glabra, pube brevissimâ nervum venasque primarias pennatas tantùm occupante. Petioli inferiores folia subæquantes, pilosiusculi, semiteretes. Spicæ unilaterales, circinatæ, racemosæ, demùm corymbosæ, pedunculatæ, rachi hinc (anticè) pedicellis confertis ebracteatis, florescentiâ peractâ sensìm elongatis; indè (posticè) foliolo sessili, subrotundo, cucullato (*Commelinæ* adinstar) involucratâ. Pedunculi laterales solitarii, et terminales 2—4 collaterales, seriati inter folia duo subopposita, petiolata. Calyx liber, monophyllus, tubulosus, pilosiusculus, viridis, semiquinquefidus, dentibus æqualibus, erectis, acutis, persistens, post anthesin parùm auctus limboque patente subcampanulatus. Corollæ (magnitudine et figurâ ferè *Erini*) *tubus* calyce paullò longior, albus; *faux* imberbis, angusta; *limbus* quinquefidus, bilabiatus, patens, cœruleus, immaculatus, lobis obtusis, crenulatis, labio superiore bifido; inferiore tripartito, laciniis subæqualibus æstivatione superius equitante. Stamina 4, epipetala, tubo inclusa. Filamenta omnia simplicia (ex icone *Bauerana bifida,*) 2 *superiora* sub sinubus interlabialibus inserta, conniventia, tubi lateri superiori approximata, antherifera. Antheræ apici obliquo filamenti basi adnatæ, pallidè flavæ, imberbes, apicibus mutuò cohærentibus, bivalves, septo vix completo, contrario; *pollen* hyalinum, subglobosum, læve, exsulcum. Filamenta 2 *inferiora* absque antheris e lata basi subulata, apice parùm dilatato, subovato, acuto, plano. Ovarium sessile, ovatum, glaberrimum, *squamis* hypogynis 2 oppositis, crassiusculis, truncatis, indivisis subtensum, uniloculare. Placentæ 2 subrotundæ, indivisæ, compressæ, solutæ, polyspermæ, utrinque ovuliferæ, e pedicellis parietalibus adnatis angustis ortum ducentes. Stylus filiformis, hyalinus, glaber, situ staminum iisque paullò longior. Stigma peltatum, convexum, papulosum, indivisum. Capsula tubo calycis aucti limbo patente arctè cincta, obovata, apice exserto, stylo emarcido terminata, unilocularis, transversim dehiscens, marginibus laceris, operculo crassiusculè membranaceo, dimidio inferiore tenuissimè lacero. Placentæ subrotundæ compressæ, liberæ, utrinque seminiferæ, e pedicellis adnatis filiformibus ortæ. Semina minuta, ovali-oblonga, castanea, striis spiralibus pulchrè insignita, basi subobliquè inserta *funiculo* elongato, semen ipsum superante, capillari, hyalino, per lentem pluriès augentem quasi e tubulo unico vel duplici annulari formato. Testa crasso-membranacea, opaca, striis elevatis spiralibus hinc indè transversim connexis. Membrana *interna* crasso-membranacea, tenax, albicans, areolis subquadratis tenuissimis. Albumen vix ullum. Embryo dicotyledoneus rectus, orthotropus, albus. Cotyledones semiovatæ, obtusæ, vix longitudine *radiculæ* inferæ.—*Brown.*

Gratiola involucrata, Roxb. Flor. Ind. vol. 1. p. 138, certainly belongs to this genus, and is perhaps not specifically different from the plant here described. But a second species, discovered in Java by Dr. Horsfield in 1815, may be readily distinguished by the following character: Aikinia (*Horsfieldii*) folio unico sessili, caulem simplicissimum terminante, pedunculo solitario pluribusve seriatis.—*Brown.*

For the preceding account of this plant, as well as for the beautiful drawing of the late Mr. Ferdinand Bauer, from which the accompanying Plate has been engraved, I am indebted to Dr. Brown, to whom I offer my warmest thanks. He has likewise permitted me to dedicate this very curious genus to my highly esteemed friend Arthur Aikin, Esq., Fellow of the Linnean and Geological Societies, and Secretary to the Society for the Encouragement of Arts, Manufactures, and Commerce; a member of a family greatly known to fame, through his father Dr. Aikin, his aunt Mrs. Barbauld, and his sister Miss Lucy Aikin, the distinguished authoress of the "Court of Elizabeth, and of James the First"; himself not less eminent as a man of science, by his almost universal acquirements and his numerous valuable contributions to the common store of knowledge, than by the great suavity and urbanity of his manners, and the readiness with which he at all times communicates his varied knowledge.

Plate CCLXXXVIII. Fig. 1. A spike of flowers, the greater part of the involucre removed; natural size. 2. Flower. 3. Corolla opened, showing the stamens. 4. Calyx, with pistil. 5. The two upper fertile stamens, cohering by their anthers. 6. One of the stamens separated. 7. Pistil, with the tube of the calyx. 8. Ripe fruit in the calyx. 9. The same, opening transversely. 10. Ripe capsule, the calyx removed. 11. The same, burst. 12. The operculum. 13. The two placentæ, with their numerous seeds and long capillary funiculi; the lower half of the capsule, to which the pedicels of the placentæ were attached, being removed. 14. The same, the greater part of the seeds being removed. 15. A seed, with its funiculus. 16. The same, its outer coat removed. 17. Vertical section of the seed. 18. Embryo. All except fig. 1. magnified.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Aikinia Brunonis.

Ferd. Bauer delᵗ
M Gauci lith
Printed by Graf & Soret.

CORIARIA NAPALENSIS. Tab. 289.

Foliis ovato-lanceolatis, acutis, oppositis, subquinquenerviis, ferè sessilibus; racemis fasciculatis, axillaribus, floribus hermaphroditis.

Nomen Napalensibus: *Bhojinsi.*

Habitat in montibus vallis Napaliæ et Deyræ, florens et fructifera a mense Januarii ad Majum. In Kamaon (Blinkworth).

Frutex 8—10-pedalis, vel arbuscula 12—16-pedalis, erectus, ramosissimus. Rami oppositi, divaricato-patentes, longi, tetragoni, læves, fusci, nitidi, punctis frequentibus callosis elevatis notati. Folia opposita, approximata, patentissima, decidua, subsessilia, coriacea, ovata, vel oblongo-ovata, acuta, nunc subattenuato-acuminata, basi obtusa, nunc leviter subretusa, lævia, opaca, subglaucescentia, integerrima, 3-pollicaria, subtùs pallida, 5-nervia, nervo utrinque extimo capillaceo, leviter reticulata. Petioli perquàm breves, vix ultra lineam emetientes, suprà plani. Racemi ex axillis foliorum delapsorum in ramis nudis provenientes sessiles, 4—6 fasciculati, cylindracei, nutantes pollicares vel bipollicares, basi circumdati *squamis* gemmarum pyramidato-ovatarum obtusis, ovatis, concavis, imbricantibus, fuscis. Rachis filiformis, teres, pubescens. Flores densè oppositi, hermaphroditi, brevissimè pedicellati, suffulti *bracteolâ* ovatâ, concavâ, marginatâ, crenulato-ciliatâ, obtusâ, nunc sublobatâ, ipsum florem longitudine subæquante. Calyx ovatus, lævis, pallidè viridis, 10- vel 12-partitus; *laciniæ* 5 exteriores ovatæ, obtusæ, membranaceo-marginulatæ, crenulatæ, imbricantes; *interiores* subcarnosæ, minimæ, ovatæ, acutæ, petaliformes (vel nectariiformes) ovariis alternantes. Stamina 10 calyce longiora; *filamenta* longiuscula, capillacea; *antheræ* magnæ, purpureæ, nutantes, utrinque totâ longitudine dehiscentes; *pollen* magnum, globosum, flavum. Ovarium profundissimè divisum in lobos 5 verticillatim dispositos, lenticulares, compressos, læves, singulos *ovulum* continentes pendulum. Styli 5, subulati, purpurascentes, puberuli, staminibus paullò breviores, parùm divergentes. Stigmata simplicia, acuta.

Plate CCLXXXIX. Fig. 1. 2. Flower. 3. Bractea. 3 (bis). Flower dissected. 4. Pistil, with the ovary opened.

ULMUS VIRGATA. Tab. 290.

Ramulis pendulis; foliis obliquè oblongis, lucidis, æqualiter serratis, basi inæquali; floribus fasciculatis, brevè pedicellatis, tetrandris; capsulâ obliquè ovatâ, sessili.—*Roxb. MSS.*

Habitat in China: indè in Hortum Calcuttensem a Dom. Roydsio introducta. Florens Novembre, fructifera Februario.

Arbor elegans, 10-pedalis. Truncus (arborum annos 10—12 nactarum) brevis, substrictus, crassitie brachii, cortice saturatè fusco. Rami pauci, valdè patentes; extremi longissimi, graciles, penduli, pallidi, scabriusculi. Folia bifariè alterna, brevè petiolata, oblonga, obliqua, æqualiter obtusè serrata, firma, scabriuscula, suprà nitentia, pollicaria ad bipollicaria, semipollicem ad pollicem lata. Stipulæ ensiformes, caducæ. Flores axillares, fasciculati, brevè pedicellati, parvuli, *bracteis* aliquot aridis, duriusculis, rotundatis, concavis, caducis ante anthesin obtecti. Calyx partitus in lobos 4—5 membranaceos, rotundatos, manentes. Corolla nulla. Filamenta 4, sæpiusvè 5, ovario parùm longiora. Antheræ magnæ, bilobæ. Ovarium apice subelongato-bifidum, obliquè ovatum, 1-loculare, *ovulo* e vertice pendulo. Styli nulli. Stigmata simplicia. Capsula tenuis, obliquè ovata, sessilis, margine lato, membranaceo, colorato alata, vix semiunciam longa.—*Roxb. MSS.*

Plate CCXC. Fig. 1. Flower. 2. Ripe capsule.

LILIUM NAPALENSE. Tab. 291.

Lilium napalense, Don in Act. Werner. vol. 3. p. 412.

Habitat in montibus summis valli Napaliæ magnæ contiguis, et versus Gossain Than Himalayæ; florens Julio et Augusto.

Bulbus nunquam observare contiguit; sed basis caulis tumida, ½ pollicem crassa, deorsùm longiusculè attenuata, *radiculas* emittens densè verticillatas, villosas, filiformes, cinerascentes. Caulis simplicissimus, erectus, cylindricus, 2—3-pedalis, pennam anserinam ferè crassus, infernè nudiusculus, apice attenuatus, fuscescens, nitidus, punctis hyalinis copiosis scabriusculus, aliquandò leviter flexuosus. Folia valdè numerosa, undique sparsa, erecto-patentia, oblongo-lanceolata, in acumen attenuata, deorsùm leviter angustata, sessilia, basi latiusculâ transverseque carinatâ quasi articulatim adnata, nunc semiamplectentia; subcarnosa, suprà lucida, saturatè viridia, levissimè canaliculata, subtùs pallida, 5—7-nervia, præter nervos capillaceos interspersos; inferiora (versus basin caulis 6—8-pollicarem sæpissimè nudam,) subdistantia, 1—2-pollicaria, media interstitiis duplò longiora 3-pollicaria, summa 4- usque ad 6-pollicaria, approximata in verticillum terminalem 4—5-phyllum, 1-florum, rarò in duos verticillos 1-floros, 2—3-pollices distantes, quorum superior 3-phyllus. Flos magnus, speciosus, pedunculatus, nutans, parùm odoratus, glaber, luteus, fauce tuboque intùs purpureis et viridi-lineatis; infundibuliformi-campanulatus, 5-pollicaris, *fauce* patente, 5-pollicari, *tubo* obtusissimè triangulari, digitum crasso; terminalis, solitarius; nunc 2 adsunt, quorum inferior lateraliter ex verticillo inferiore progreditur. Pedunculus divaricato-patentissimus, cylindricus, nitidus, foliorum verticilli circiter longitudine, apice dilatatus. Petala oblongo-lanceolata, acuta, carnosa, deorsùm attenuata, dorso convexiuscula, intùs sulco purpureo versus basin notata, æqualia, interiora 3 dorso costata. Filamenta crassa, subulata, recta, longitudine ferè petalorum. Antheræ magnæ, oblongæ, fusco-flavæ. Ovarium læve, pollicare, cylindraceo-3-angulare, angulis obtusis. Stylus crassus, staminibus parùm longior. Stigma carnosum, clavatum, obtusum, asperum, obsoletissimè 3-lobum. Capsula ovata, obtusè 3-angularis, lævis, 2-pollicaris; matura haud visa.

ILEX DIPYRENA. Tab. 292.

Ilex dipyrena, Wall. in Roxb. Flor. Ind. vol. 1. p. 473. Cat. Ind. Lignor. in Act. Soc. Art. Lond. vol. 48. p. 457. n. 195.

Habitat frequenter in montibus Napaliæ; in Sirmore (Webb et Govan), Kamaon (Blinkworth).

Plate CCXCII. Fig. 1. 2. Flower. 3. Calyx, opened. 4. Corolla, opened. 5. A branch, with ripe berries. 6. A detached berry. 7. 8. The same, opened. 9. 10. Seed. 11. The same, cut transversely.

JACKIA ORNATA. Tab. 293.

Jackia ornata, Wall. in Roxb. Flor. Ind. vol. 2. p. 321.

Habitat in insula Singapore, floribus fructibusque immaturis onusta Octobre.

Plate CCXCIII. Fig. 1. Flower. 2. Calyx and pistil. 3. Corolla, opened.

TECTONA HAMILTONIANA. Tab. 294.

Foliis ternis, calyce fructifero oblongo.

Tectona ternifolia, Hamilt. MSS. et Icon. Pict. in Museo Banksiano.

Nomen Burmanicum: *Tă-lă-hat* (ex Hamilt.).

Crescit frequenter secus ripam fluminis Irawaddi ad Loongye, Prome, Segain, Avam, et ad basin montis Taong Dong dictæ prope Avam; fructifera Novembre. In collibus sterilissimis ubique inter Prome et Paghamew, florifera et fructifera mensibus Junii Juliique (Hamilt.).

Arbor ramis 6-gonis, angulis obtusis. Tomentum albidum, densissimum, totam arborem præter truncum, foliorum paginam superiorem, et corollam tegens, aliquandò lanatum. Pili nonnulli stellati in pagina foliorum superiore. Ramuli 6-goni, 3-sulci, lanati. Folia terna, petiolata, elliptica, integerrima, acuta, nervosa, valdè reticulata, suprà papulosa, hispida, nervis tomentosis, subtùs albido-tomentosa, mollia, plana, membranacea. Petiolus brevissimus, semiteres, tomentosus. Stipulæ nullæ. Corymbi axillares, terni, folio longiores, patentes, ramosissimi; divisionibus inferioribus 3- vel 5-fidis, superioribus dichotomis, flore intermedio sessili. Pedunculus teres, rigidus, tomentosus, ramis patentibus. Bracteæ binæ lineares, breves, pubescentes ad basin singulæ divisionis. Flores parvi, cœrulei, erecti. Calyx 1-phyllus, persistens, supernè ampliatus, 5-fidus, laciniis reflexis, ovatis. Corolla 1-petala, infundibuliformis; *tubus* supernè ampliatus, longitudine calycis; *faux* inflata, sub-5-gona, intùs pilosa; *limbus* reflexus, 5-partitus, laciniis ovatis, obtusis. Filamenta 5 subulata, erecta, apici tubi inserta, longitudine pilorum. Antheræ cordatæ. Ovarium minutum in fundo calycis. Stylus teres, longitudine staminum. Stigma bifidum, laciniis acutis. Nux 4-locularis, oblonga, calycis basi auctâ tecta, ejusdem laciniis coronata. Semina solitaria.—*Hamilt. MSS.*

Coriaria napalensis

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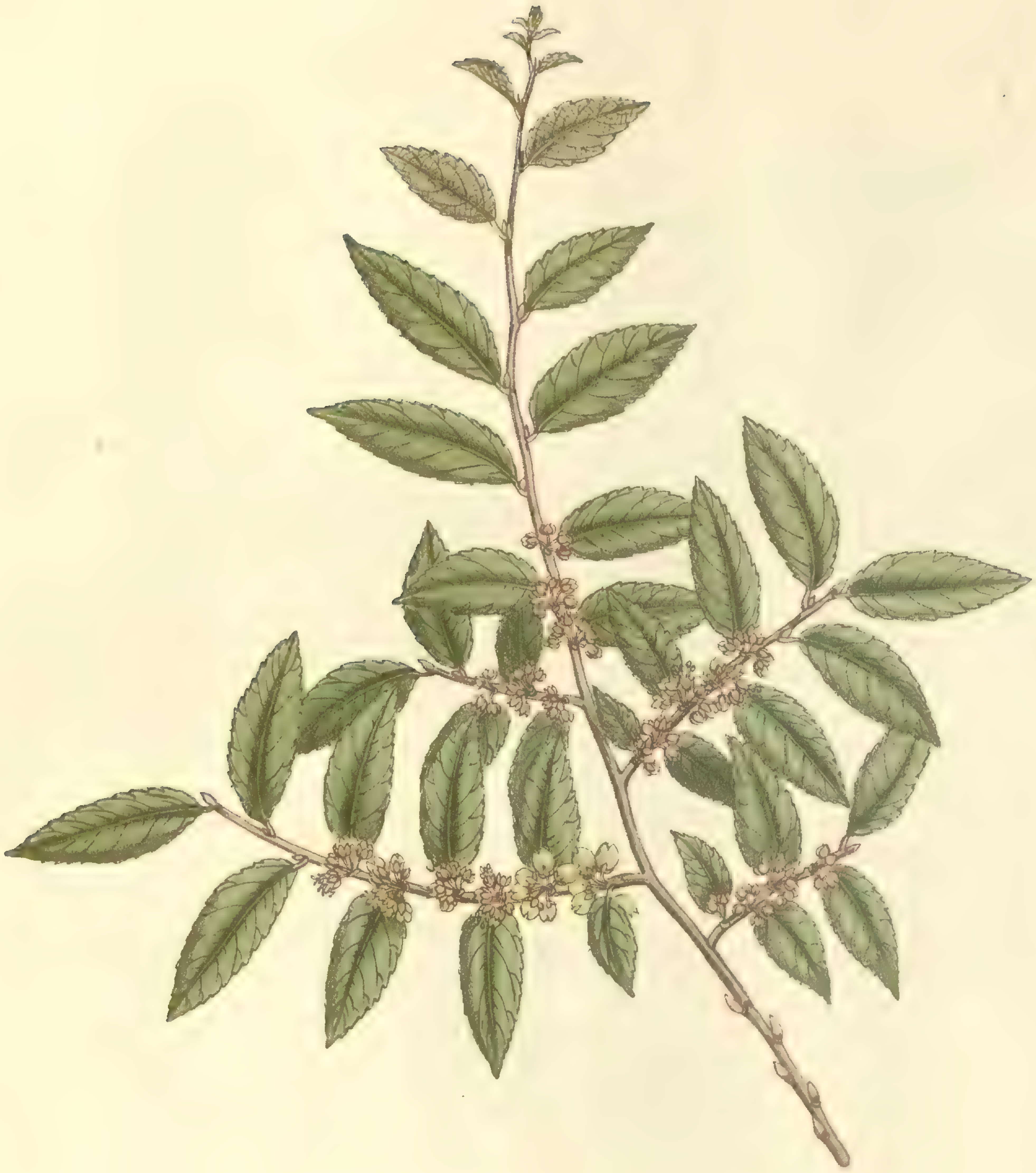

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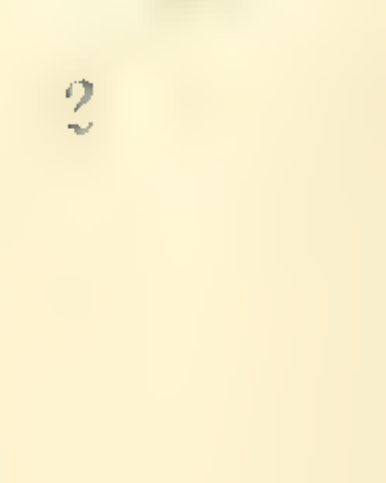

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Ulmus virgata.

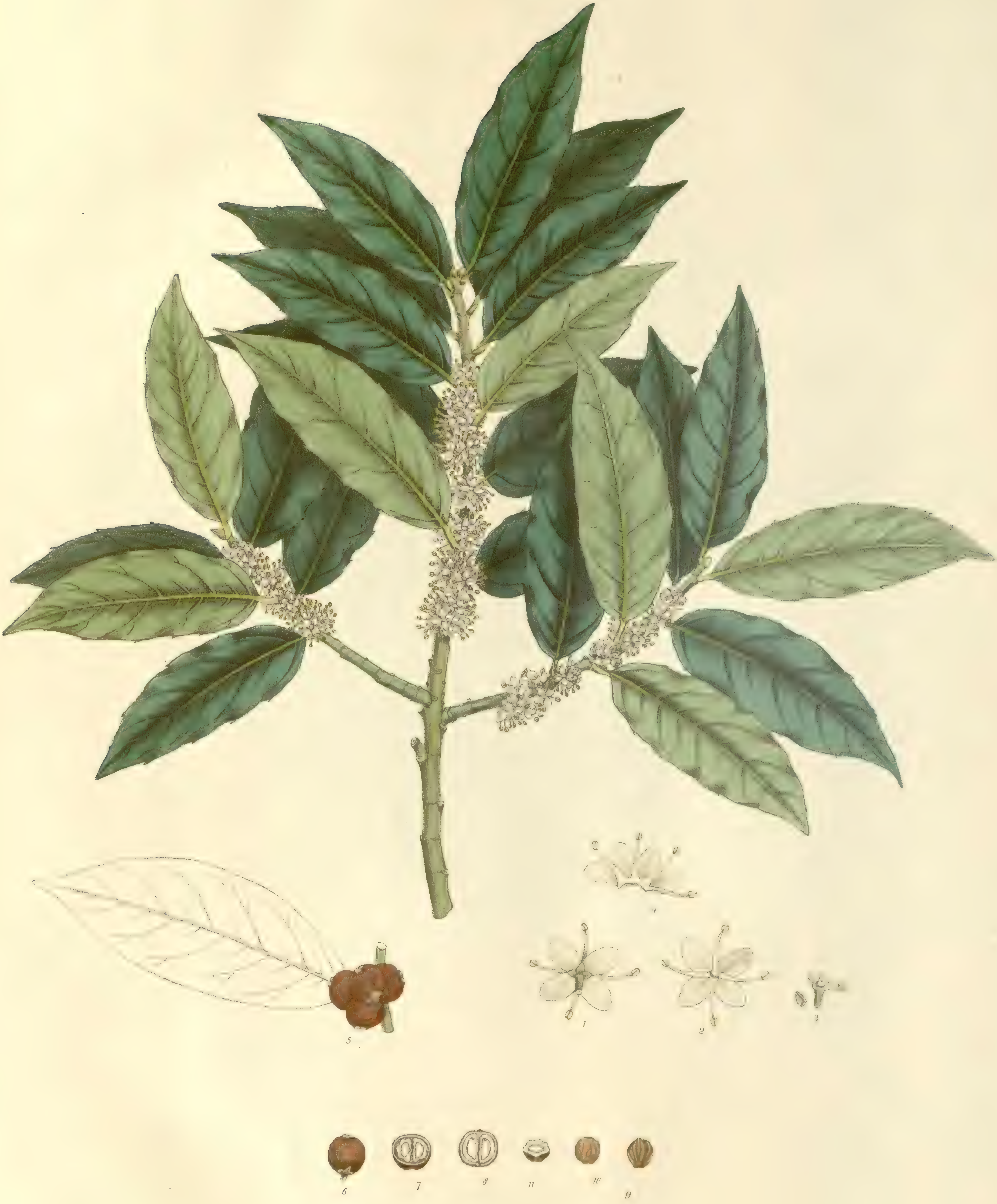
Printed by Graf & Soret.
M Gauci lith.

Lilium napalense.

Printed by Graf & Soret.

Vishnupersaud del.

M Gauci lith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Ilex dipyrena.

Gerochaud delt

Printed by Graf & Soret.

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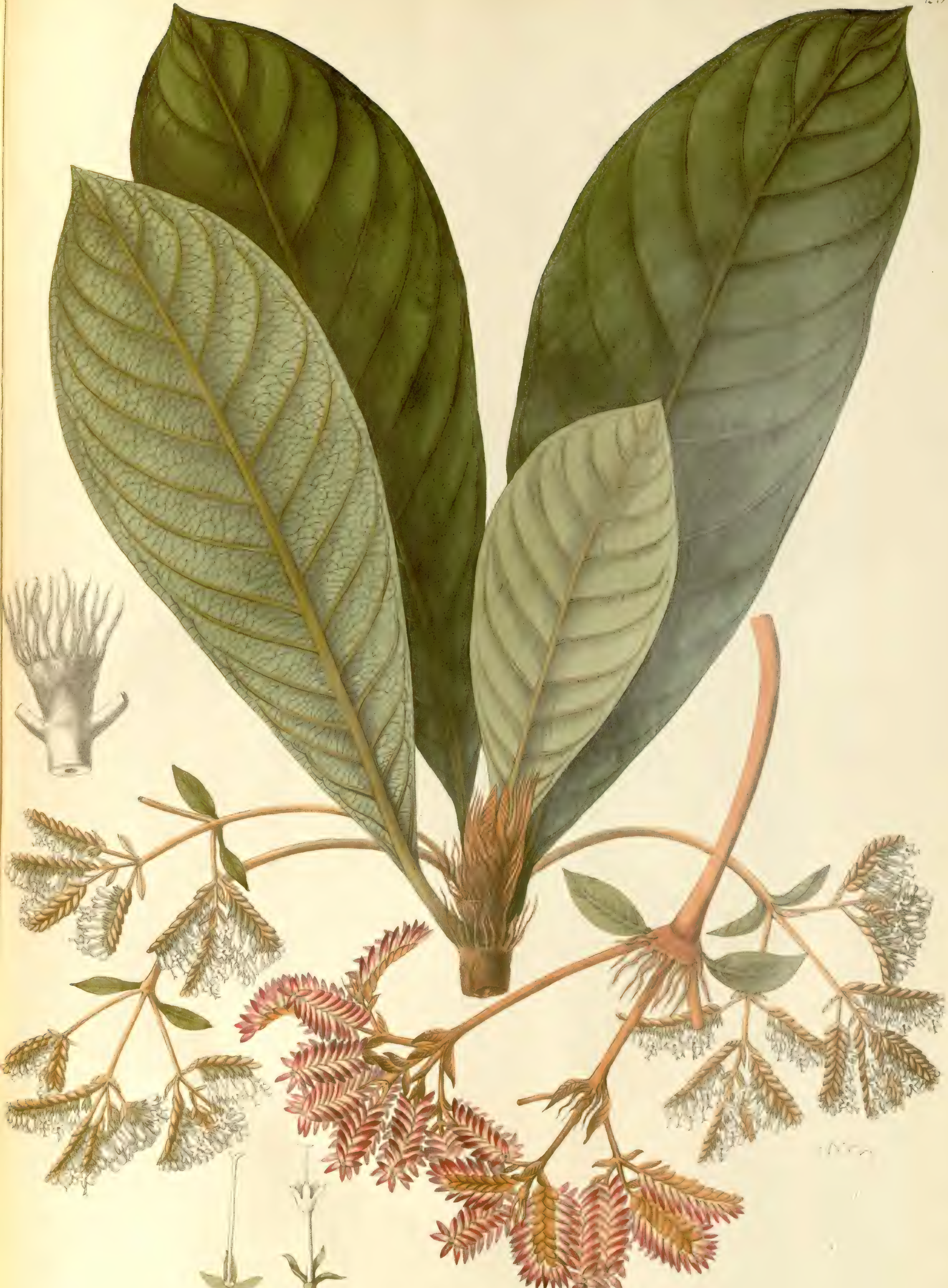

Jackia ornata

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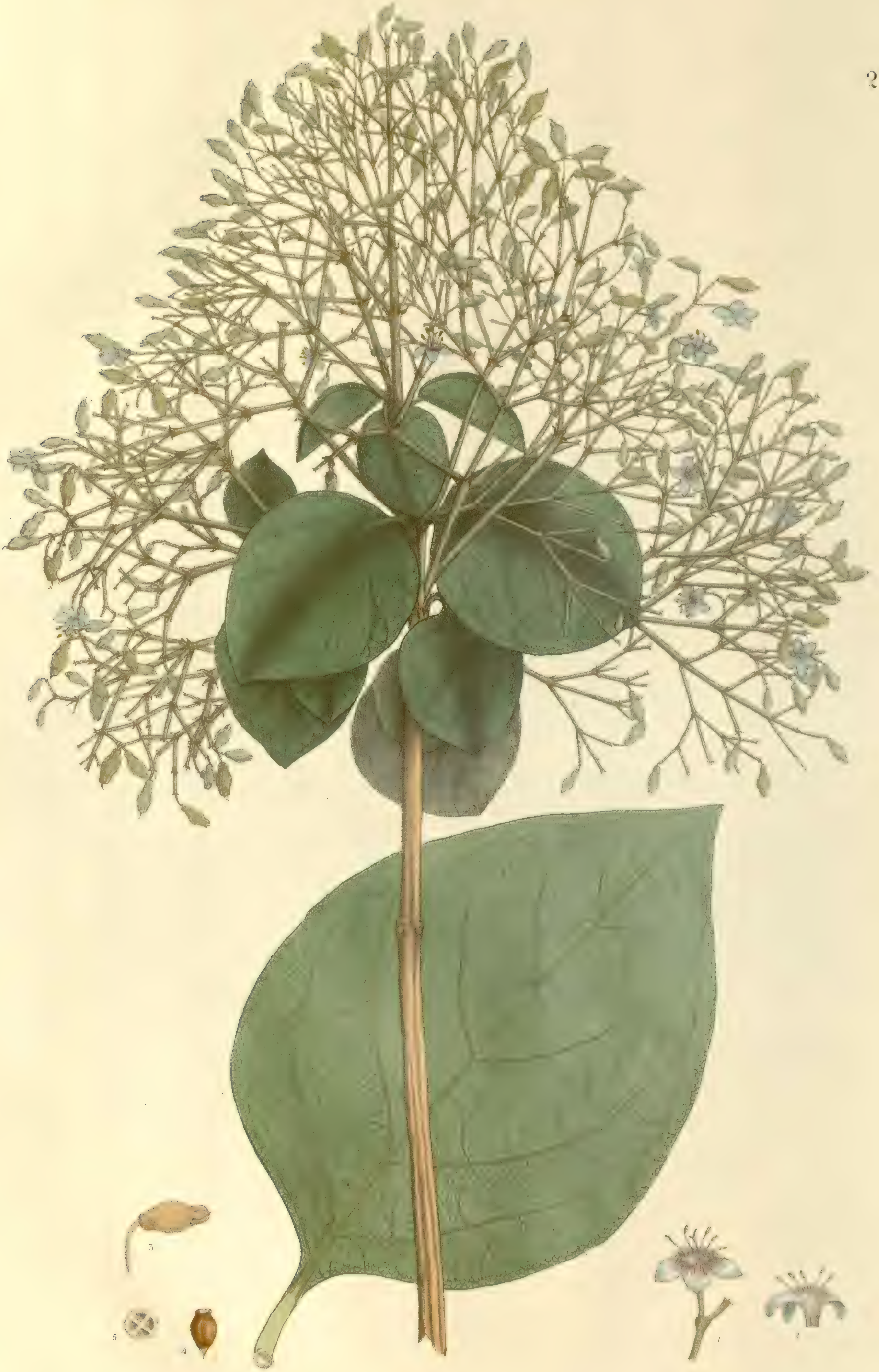


Tectona Hamiltoniana

Arbor juxta ripam Irawaddi mediocris staturæ, saltem 12—16-pedalis; ad basin verò jugi Taong Dong magna, *trunco* recto 16—25 pedes alto, diametro 2—2½- quin 3-pedali, comâ amplâ et umbrosâ, habitu omninò *Tectonæ grandis*. Cortex glabriusculus, griseus. Ramuli cinerei, cicatricibus elevatis frequentissimis foliorum delapsorum notati; tenelli obtusè tri- vel quadrangulares totidemque sulcis gracilibus, uti folia subtùs, cymæ calycesque fructiferi densè obtecti tomento denso, stellato, cano, solubili, molli. Folia terna, aliquandò quaterna, nunc opposita, brevissimè petiolata, patentissima, lato-ovata, vel elliptica, palmaria usque ad pedalia, suprà rugis conicis densissimis papuloso-hispidulis aspera, subtùs valdè vasculosa, venis inter nervos obliquos transversè reticulatis exstantibus; marginibus parùm irregularibus, in recentibus ramis extrorsùm leviter sinuato-sublobatis. Nux ovata, obscurè quadrangularis, basi spongiosa, villosula, lineas 2 longa, 4-locularis, 4-sperma, inclusa calyce oblongo-ovato, densè tomentoso, unguem longo, basi ventricoso, infra faucem obtusam quadrifidam parùm contracto, laciniis triangulari-lanceolatis acutis, conniventibus.

I have given above Dr. Hamilton's account of this new species of Teak, preserved, together with a drawing of it, in the Banksian Collection at the British Museum. My late friend observes, that in a great number of trees which he examined, he found no other fruit than that described by him; and that Dr. Roxburgh thought he had not seen the ripe fruits, but only abortive ones: and he adds, that the native carpenters use the leaves as the common Horsetail is employed in Europe, for polishing wood. The accompanying plate has been copied from Dr. Hamilton's drawing.

That the tree is in reality a species of Teak there cannot be any doubt. At the foot of the mountain called Taong Dong I found it growing together with the common sort (*Tectona grandis*), but in greater abundance, and of much larger size. In stature, habit, and in the size of the leaves, the species much resemble each other.

Plate CCXCIV. Fig. 1. Flower. 2. Corolla, opened. 3. Fruit. 4. Nut. 5. The same, opened.

STROBILANTHUS AURICULATA. Tab. 295.

Fruticosa, ramosissima; foliis elliptico-oblongis, basi cuneiformi-auriculatâ amplexicaulibus, hirtis; spicis axillaribus terminalibusque tomentosis, bracteis subrotundis, squarrosis. *Nees ab Esenb. Synops. Acanthac.* infrà.

Ruellia auriculata, Wall. Cat. n. 2341.

Crossandra? spicata, Herb. Hamilt.

Habitat in montibus Napaliæ, florens sub pluviis: indè in hortum botanicum Calcuttæ introducta. In Magadhæ sylvis, ad Belem (Hamilt.).

Frutex 3—5-pedalis, erectus, ramosus. Rami obtusè quadrangulares, cinerei, glabri, minutim punctulati, supernè puberuli, sulcis duobus oppositis notati, ad foliorum insertionem leviter ventricosi, nunc subflexuosi. Folia approximata, opposita, patentia, æqualia, elliptico-oblonga, attenuato-acuminatissima, obtusiusculè cuspidato-serrulata, sessilia, deorsùm integerrima, attenuata, basi lineari-oblongâ ramum amplexante et utrinque in auriculam rotundatam dilatatâ; 5—7- quin 9-pollicaria, atroviridia, suprà adpressè setoso-hispidula, subtùs glabriora, obliquè nervosa; *folia floralia* (in planta spontanea multò minora, latioraque) in jugo valdè inæqualia, subovalia, sessilia, basi haud attenuata. Spicæ axillares terminalesque, solitariæ, pedunculatæ vel sessiles, subquadrifariè densè imbricatæ. Bracteæ obovato-cuneatæ, rotundatæ cum cuspidula subulata, villositate capitato-glandulosâ, densâ, canâ obtectæ, semiunguiculares. Calyx inæqualiter quinquefidus; *laciniæ* lineares, glanduloso-ciliatæ. Corolla infundibuliformis, pubescens, pollicaris, dilutissimè cœrulea, extùs albicans, limbo brevi, patulo, 5-lobo, lobis rotundatis. Stamina 4, didynama infra faucem inter villos inserta. Stigma bifidum, subulatum.

I feel proud in having it in my power, through the friendship of Professor Nees Von Esenbeck, to conclude my work with the following Synopsis of the Indian *Acanthaceæ*, for which, as well as for his other valuable contributions, I offer that excellent botanist my warmest thanks.

Plate CCXCV. Fig. 1. Flower. 2. Calyx and bract. 3. Corolla, opened.

ACANTHACEÆ INDIÆ ORIENTALIS.

Exposuit C. G. NEES AB ESENBECK, *Prof. Vratisl. Acad. Cæs. Leop. Carol. Nat. Cur. Præses.*

ACANTHACEÆ.

Rob. Br. Prodr. Fl. Nov. Holl. i. p. 472; ed. N. ab E. p. 328. Kunth Synops. ii. p. 29. DeC. Th. Elém. p. 247. Fam. 105. Lindl. Introd. to the Nat. Syst. p. 233.—Class xxxiv. *Labiatifloræ*: Ordo iii. *Acanthaceæ* Bartl. Ord. Nat. Pl. p. 122 et 183.—Cl. xiii. *Dichorgana siphonantha*: Ord. ii. *Siph. toranth. herbac.* 2. *teithosperm.* Fam. 156. *Acanthaceæ* Schultz Nat. Syst. des Pflanzenr. p. 403. —Cl. vi. *Sympetalæ*: Ord. ii. *Lobifloræ*: Fam. 79. *Personatæ*: c. *Acanthaceæ*: cc. *Acantheæ* Reichenb. Consp. Regni Veg. i. p. 122. —*Acanthi* Juss. Gen. Pl. p. 115. Ann. du Mus. d'Hist. Nat. v. p. 251; ix. p. 251; xiv. p. 390.—*Personatarum genera* in Cl. vi. *Monopet.* Ord. ii. *Polysperm.* Fam. 1. Batsch Tab. Affinit. Regn. Veg. p. 193 sq.

Character essentialis: Corolla gamopetala, toro inserta, subregularis vel bilabiata. Carpella quatuor, valvatim connexa, alternis marginibus seminifera et ibidem per membranam internam in dissepimentum appendiculatum transeuntia, alternis aspermis post flexuram extenuatis contiguisque suturam loculicidam constituentibus. Capsula elasticè bivalvis. Semina exalbuminosa. Radicula centripeta deorsùmque obliqua. Cotyledones magnæ.—Plantæ oppositifoliæ, intercalaribus articulis, integrifoliæ, multiplinerviæ, inæquilaterodichotomæ, bracteis instructæ.

Character naturalis: Adeas *Brownium* l. c., cujus verba, quippe quæ omnibus nota deciesque exscripta, denuò hìc exscribere nefas. *Lindleyum*, v. cl., conferas l. c., quàm plurima propriis suis explentem. Spicilegium, quod mihi solum relictum, hìc additurus sum *Animadversionum in Acanthacearum familiam.*

I. *Caulis* plerarumque basi fruticulosus est, sed rami novelli herbaceam indolem magìs, quàm plurimorum fruticum, ostendunt diùque servant. Memorabilis est, magisque ac in aliis conspicuus partis superæ sæpè argutissimè angulatæ cum tempore progressus in ambitum teretem. Tubus medullaris, etiam in adultiore maximèque lignescente trunco, amplus et laxus. Ligni strata tenuia, lignificatio igitur lenta. Vasa porosa angusta sunt. Cuticula adultioribus sæpè accedit lævis, tumidula, in strata solubilis, (*Eranthemum crenulatum* Wall.) aliis lenticulosa est et valdè rudis. Est omnibus caulis in articulos divisus, regulari modo decrescentes, quandoque a basi ad apicem ferè æquè longos. Tubus medullaris continuò genicula pervadit et in ramos excurrit. Geniculi limites notantur extrinsecùs annulo non multum elevato, in plerisque setulis rigidis obsito, in quem foliorum bases concurrunt. Hinc superiora versus stratum ligneum exterius, extrorsùm dehiscens, gemmarum basibus cuneiformibus cedit, quæ ex paullò altiore loco descendunt. Quo altiores illæ oriuntur, eo magìs ultra geniculi exteriorem annulum articulus producitur. Jam brevi spatio in ramo recente intumescit, succo magìs repletus laxiorique per strata transversali medullâ farctus, quâ parte, in sicco exemplo, caulis corrugatus atque constrictus genicula quasi rhachitica, seu articulo intercalari conjuncta, exhibet. In adultiore et lignescente caule tubus medullaris hâc regione stratis transversalibus pallidioribus laxioribusque, in rimas haud rarò secedentibus, dividitur. Hæc articulorum et geniculorum structura, omnibus hujus familiæ plantis communis et ante omnes in his exculta, inter characteres, habituales quos dicunt, non levioris est momenti. Accedit alter, a gemmarum suo loco intrantium oppositarumque vi præcellenti derivandus: in latitudinem extenditur geniculum apparetque compressum, idque haud rarò eximio gradu contingit. Jam autem, secundum situm foliorum decussatum, quicunque articuli eodem sensu compressiores, alternis lateribus per vices compressum reddunt caulem, compressione in aliis magìs, in aliis autem minùs evidente. Quæ diversitas projecturis, foliorum generationem præfinientibus, modis diversis variatur. Prominent magìs minùsve hæ projecturæ, acuuntur, exasperantur setulis; et tum quidem habes caulem non modò alternatim compressum, sed etiam in lateribus angustioribus alternatim ex opposito sulcatum aut canaliculatum. Verùm, si costa media folii seu petioli magìs tumida per medium latus suum (quod est ex angustioribus) descendit prominula, ancipites oriuntur articuli, carinis per successionem decussatis. Hoc in casu, qui quidem rarior, v. c. in *Adhatoda Vasica* evenit, projecturæ laterales foliorum ferè obliteratæ vix discernuntur. Ubi et costa folii et latera obtuso angulo descendunt, sexangularem habes caulem, ut in multis *Dicliptereis.* Est autem et alia via, quâ in hac *Diclipterearum* Subtribu sex caulis anguli vel latera producuntur. Ubicunque enim genicula gemmarum veluti serie maximè distrahuntur, latera articulorum latiora, utrinquè leniter declivia, carinâ obtusâ per medium latus a geniculi centro decurrente dividuntur; his ipsis projecturæ foliaceæ, sæpè argutiores, angulos quatuor acutiores per paria magìs inter se approximatos præbent, ad quos accedunt duo oppositi, qui obtusiores. Hæc autem omnia magìs minùsve conspicua innumerisque variata modis hac in Subtribu offendes.

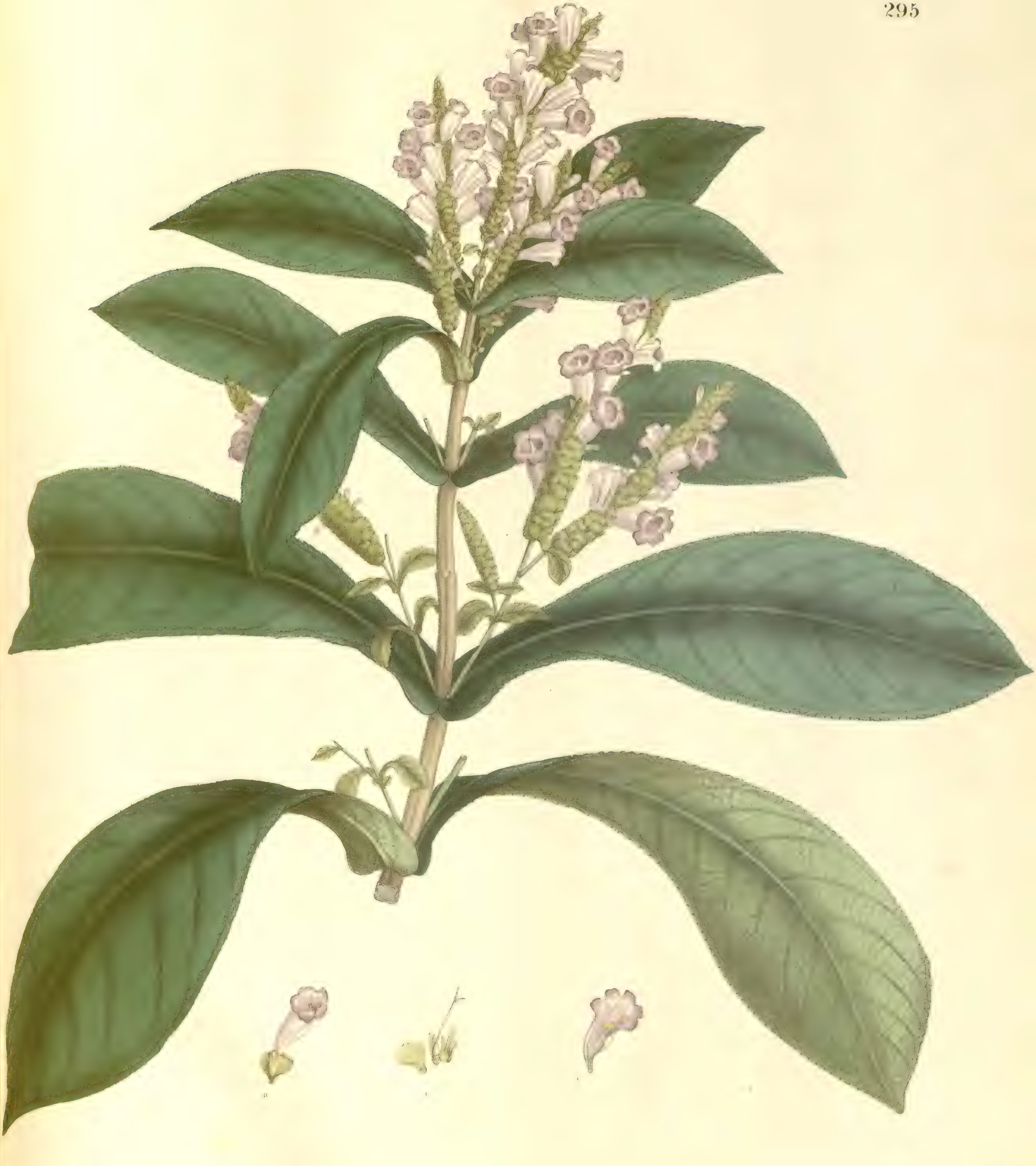
II. *Pubescentia* ferè omnis generis, a subtilissima lanugine ad setas rigidas tuberculis impositas, hac in familia occurrit. Rariùs quidem in tomentum spissatur, sed summam ferè talis integumenti, gossypium satis crassum referentis, *Aechmanthera gossypina* exhibet. Fasciculatæ quoque hinc indè observantur setulæ, sed eæ hac in familia minimè frequentes. Singulares etiam sunt in multis setæ erectæ, basi pube subtili radiante cinctæ. Duplex in plerisque pubescentia, tenerior alia, altera rigidior, miscentur. Cum inflorescentia denique setulæ vel pili glandulâ capitatâ coronati frequenter prodeunt, quorum in inferiore caulis parte nulla aderant vestigia; nec rarò, ubi caulis et folia glabra, inflorescentiâ derepente vel glandulis vel pube alius cujusque generis investitur. Pubes omnis crebrò articulata, et sæpenumero, vel absque glandulis conspicuis, viscidula.

III. *Lineolæ*, in partibus vegetis, præsertim in ramis novellis, foliorum pagina superiore, quandoque et in eorundem inferiore, nec rarò in bracteis obviæ, rectæ vel incurvæ, altero fine vel utroque acutiusculæ, jam nudo oculo apud plerasque, in aliis lentis tantùm auxilio discernendæ, semicylindraceo-tumidulæ, ad tactum asperulæ, propriæ ferè nostræ sunt familiæ. In aliis brevissimæ sunt, ad punctulorum ferè exiguitatem reductæ, in aliis longæ et folia quasi varicosa reddentes, quales in plerisque *Rostellariis.* Directio earum irregularis, majorum curvatarumque præcipuè magìs transversalis quàm longitudinalis. Sub microscopio composito cellulas eas esse patet, sub epidermide latentes eidemque ad partem innatas atque cum hac detracta a folii parenchymate secedentes, continuas, massâ, uti videbatur, densiore et æquabili repletas. Ad margines foliorum et costas fine cœco prominulæ, hæ lineæ scabritiem majorem inducunt his partibus. Ubi maximè contrahuntur, punctulata vel verruculosa reddunt folia. Auctores plerique has lineolas intelligunt, ubi folia setulis appressis vestita describunt. Cavendum autem, ne setas, in multis paginæ foliorum superiori inspersas eique incumbentes, cum istis lineolis, quibus tota superficies sæpè densè obtegitur, confundas. In caule longitudinalem situm servant lineolæ. Pilos haud incongruè diceres, intra epidermidis fines retentos, qui nunquam a situ horizontali ad verticalem, nisi cum ipsa epidermide adsurgunt.

IV. *Vasa, lymphatica* dicta, in utraque pagina foliorum, præsertim in inferiore, valdè flexuosa et serpentina, crebrò interrupta. *Pori*, in inferiore foliorum pagina, sparsi, exigui, e duobus annulis ovalibus constantes; in quibusdam adeò dissiti sunt pori, ut deesse putarem, donec iterata observatio errorem detegeret.

V. Glandulas esse his plantis omninò ullas, dubito, nisi lineolas, suprà memoratas, glandulas diceres. Sed neque olei aliquid neque omninò odori quidquam secernunt aut continent.

VI. *Ramificatio et Inflorescentia.* Simplex est typus ramificatio-



Strobilanthes auriculatus.

num, sed valdè diversæ evolutionis. Caulis e gemmis oppositis decussatis ramos decussatos generans communis est hujus cum plurimis aliis plantis oppositifoliis regula ramificationis. Sed primitùs innatus est omnibus nisus quidam ramos alternos cujusque paris minùs evolvendi, vel penitùs opprimendi, simulque, ubi rami vel flores inflorescentiæ abortu hujusmodi solitarii alternique existunt, vel circumflectendis pedicellis ramisque, vel transponendis majorum ramorum et foliorum locis natalibus, dichotomiam, et omninò inflorescentiam secundam vel adeò unilateralem provocandi. Qui quidem nisus ad dispositionem ramorum intra ipsos fines trichotomiæ constantis per abortum hinc magìs expansam ab altero autem latere reductam, in omnibus quidem hujus familiæ civibus dominatur, sed latet in multis vel partium diversarum proportione diversâ ad infimum ferè gradum reductâ, vel mutuâ positionis alternæ compensatione. Igitur, si æquam ferè partium componendarum molem fundamento ponimus ordini evolutionum, hi ferè sequuntur modi ramificationis in inflorescentia maximè expressi. Trichotomus caulis,—capitulum triflorum, cui bini flores laterales bibracteati,—pluriflorum,—in spicam oppositifloram, singulifloram—glomerifloram protensum,—transiens in thyrsum,—resolutum denique in paniculam corymbosam dichotomam cum flore singulo bifurcationibus singulis interjecto. Horum omnium rami alterius lateris ampliùs divergunt magisque procurrunt, diverso in diversìs gradu.—Folia cujusque paris subæqualia sunt. Ubi jam evidenter inæqualia sunt folia cujusque paris, axilla folii minoris minùs fœcunda debiliorem nutrit ramum vel nullo omninò ramo gaudet. Quo magìs superiora versus egrediuntur rami, eo magìs irruit diversitas. Inflorescentiæ sequuntur eædem, sed formæ alienæ, capitulatæ, spicatæ, racemosæ, paniculatæ, magìs minùsve secundæ, bracteisque, hic maximâ diversitate intrantibus, insuper magìs variatæ. Culmen hujus evolutionis esse videtur, ubicunque bracteæ, naturâ suâ oppositæ, in spiras arctas transeunt duplicique decursu cum tertio pare novum ineunt cyclum. Ubi hoc evenit, flores alterni biseriati unum latus occupant inflorescentiæ, alterum tegitur bractearum sterilium et paullò minorum duplici serie, in quarum decursu resurgentia deprehendimus folia reliqui caulis, alternatim minora majorique alteri opposita. Postremò in *Diclipterearum* generibus plerisque, imprimìs in *Dicliptera* et *Peristrophe*, ramificationis regulam, his plantis familiarem, illustrissimo exemplo junctisque ferè extremis ejusdem ordinis complexibus expositam videmus. Ubicunque enim panicula trichotoma ab interjecto flore medio, evanescente ferè omni internodiorum distantiâ, clauditur, *capitulum* gignitur. Hujusmodi capitula communia sunt plantis, de quibus sermo est. Notandum autem, ubicunque in nostra familia flores ad angustissimum spatium reducti congerantur, ibidem folia floralia seu bractealia, quæ inter divisiones inflorescentiæ jam maximè coangustata et diminuta cernebantur, involucrorum et bractearum ipsum florem imitantium et præsagientium proprietatibus prædita, rursùs grandescere. Itaque hæc capitula vario modo involucrata bracteolis minimis, tanquam paleolis, interstincta, quia ipsìs bracteis basi coalitis veluti periclinio communi gamophyllo, *Dipsacearum* capitulis involucratis simili, cincta in conspectum veniunt. Paullò inferiore gradu ramus seu caulis regulari modo trichotomus, internodiisque evidentioribus extensus, capitula in umbellulam (in universum trifidam) colligit, et plures tales umbellulæ, magìs jam protensis articulis sublati, ad umbellam denique simplicem vel simili ratione cum aliis ejusdem gradus communi ramo conjunctam revocantur, quæ cunctæ, cum e gemmis oppositis oriantur, in planum expansæ, seu flabellares juncturæque sæpè valdè compressæ insertæ, bracteisque oppositis sensim deorsùm versus grandescentibus suffultæ prodeunt. Hac viâ, illi, quam natura sequitur, contrariâ, si florum distributionem in ramo oculis lustraveris et plantam, ad id idoneam, v. c. *Diclipteram bupleuroidem* elegeris, symmetricum istum ordinem cum ingruente asymmetria mirificè conjunctum videbis. Jam folia involucralia, ubi opposita, inæqualia sunt, differentiâ in aliis vix oculos feriente, in aliis maximè conspicuâ. Intra capitula, ubi flores sunt terni, apparet medius, alterque bibracteolatus ad latus alterum; alterius autem floris locum bracteolæ vel una tantùm bracteola occupant, quæ ubi penitùs obliterantur, ab altero latere flos oppositus ad bracteolas reductus vel unica sola bracteola in ejus loco reperitur, et involucrum capituli jam uniflorum videtur, flore medio, qui naturâ suâ bracteis carere debebat, utrinque bracteolâ pedicellari, a floribus collateralibus superstite, stipato. Quæ in capitulo vidimus, revertuntur in umbellulæ et in umbellæ ramis, medio majore, tum laterali altero longiore, altero breviore, et sic porro. Mox autem radiorum umbellæ numerus augetur, quadrifidam habes umbellam vel inæqualiter quinquefidam,—sex- vel septemfidam, jam verò puræ inflorescentiæ modus ad ramificationem caulium aut ramorum reversus est, et qui in summitate *pedunculi* appellabantur, *ramuli* vel *rami* sunt appellandi, prout ex ipso caule vel e ramo quocunque oriantur; scilicet, pars intermedia rami vel caulis, ad summa tendens, magìs magisque supra ramos inflorescentiæ adscendit, foliisque inter ramificationes majoribus semper, quo magìs sunt inferiora, pollens, ramus jam est, vel caulis summitas. Hæc est origo ramorum geminorum vel ternorum, quos in medio caule e foliorum angulo prodeuntes videmus. Sed nemo non videt, e trichotomia sensu strictiore, vel in infinitum repetita, ejusmodi ramificationem prodire non posse, non magìs, ac si a trichotomia derivare velles dichotomiam cum flore intermedio. Quemadmodum autem flos, e dichotomia ortum quem dicunt, reverà inferior est et veluti radicalis rami axillaris, cui ramus nullus oppositus, ipsâque caulis continuatione ad alterum latus cedente furca efficitur, sic etiam in ista familia res peragitur, eâ, maximâque quidem differentiâ, quod ramus oppositus rarissimè inter has plantas penitùs opprimatur, sed cedat tantùm vel rudimenti formâ restet, nisi ubi in culmine suo omnis ramificatio opprimatur. Ponamus igitur, (quod idem valet atque umbella quadrifida,) caulem ex alterius folii angulo ramos seu pedunculos duos, ex alterius angulo singulum emittentem; et tum quidem ramorum geminorum exteriorem majorem, interiorem autem, seu rami ipsius axillarem, minorem reperiemus; sed oppositum singulum longitudinis inter illos utrosque mediæ. Est enim ramus interior geminorum inferioris paris *ramulus*, cui nullus e regione folii oppositus respondet. Ponas nunc caulem in umbellarum resolutione terminali principalique sexfidum, i. e. ex alterius folii angulo ternos, ex alterius autem seu oppositi axilla binos ramos procreantem: vides, jam ramo exteriore geminorum, in antecedentibus proposito, ad basin primi paris alterum accessisse, opposito autem, qui tunc singulus seu potiùs simplex adhuc restiterat, primi primordialisque paris singulum. Hæc verò ita esse proportio docet ramorum, qui ex uno nodo (si caulem medium in numerum comprehendis) sex prodire videntur, scil. exterior radius lateris triradiati minimus est, qui sequitur, post medium major omnium, tum tertius e minoribus est, post hunc medius cunctos excedit, ad cujus latus, qui proximus ordine sequitur, paullò inferior illo, quem dixi secundum, et tum denique sextus, primo paullò major vel ejusdem altitudinis. Ab hac divisionum caulis et ramorum lege ubicunque vis insita, limites frangens, ad completum concinnumque partium æquilibrium revertitur, numeri oriuntur quinarii et septenarii, sed nusquam omnis laterum inæqualitas tollitur. In ipsa verò *Diclipterearum* nostra subtribu mirum ne videatur inveniri *Rungiæ* genus, floribus sanè fructuque *Diclipteræ* proximum sed *spicas* ferens more *Barleriarum* et *Lepidagathium* secundas bracteisque imbricatis obtectas. Spicæ etenim istæ tum terminales gignuntur, tum laterales, sessiles vel subsessiles, oppositæ, geminæ quidem alterius lateris, sed singulæ oppositi, aut simili proportione crescente numero multiplicatæ. *Umbellas* autem ejusmodi sessiles vel subsessiles jam inter *Diclipteras* *D. Roxburghiana*, *D. Burmanni*, aliæque ostendunt; hæc igitur diversitas ad aspectum magìs quàm re verâ accipienda est. Sed gravius discrimen spicam inter et umbellam intercedere, haud negandum. Ubicunque autem ejusmodi spicæ plures conjunctim ex ejusdem folii angulo proveniunt, ipsas fasciculatas, geminas, (ternas,) quaternas cet., i. e. umbellas radiis spicigeris, seu spicas umbellares vides. Capitulorum igitur, suprà expositorum, loco intrant spicæ. Capitula verò illa e dichotomia inæquilatera virium defectu exhausta oriri, jam demonstravimus. Quæ si abjecto jam alterius lateris ramulo et succrescente paulisper ramo illo, qui vertex erat ipsius caulis seu rami, in longitudinem producuntur et, ubicunque tum ramificatio exposcitur, capitulum triflorum pro more tum bibracteatum, floribus autem lateralibus penitùs evanidis jam uniflorum, et sessile, (rami alterius extrema indicia,) propellunt, quibus iteratis spicarum secundiflorarum formam induunt. Evidens est in spicas hujusmodi transitus apud species nonnullas Novi Orbis, v. c. *Dicli-pteram flabellifloram* N. ab E. in Herb. Hænk., et *D. ocymoidem* Juss., ubi capitula illa, jam verè uniflora bracteisque binis inæqualibus oppositis suis valvatim tecta, ipsa etiam in pedunculo communi brevi sessilia, *flabellum* exhibent 4—7-florum, utrinque bracteâ majore (quæ bracteæ communes umbellulæ), et ab utroque latere serie bractearum collateralium (quæ bracteæ capitulorum residuæ), alterius seriei majorum, alterius autem minorum obvallatum; quod si hujusmodi capituli basin ab altero fine abreptam in longitudinem distrahas, omnes ejus partes in naturalem situm partium spicæ illius, quam dixi, transeant necesse est. Adjecimus hæc eum in finem, ut demonstretur, bracteolas quas dicunt, seu extremas infra flores partes foliaceas, diversi esse gradûs, prout ipsa evolutio magìs minùsve ad extremum perficitur. Etenim in isto casu, quem diximus, bracteolæ superiores ad capituli flores pertinentes jam evanuere, et bracteas, seu involucra quondam capituli, in pedicello ad speciem unifloro positas, bracteolas quidem *appellari* posse, nec verò *esse* bracteolas sensu proprio, i. e. *extrema* depereuntis ramificationis *folia*, neminem fugit. Genus alterum, *Rungiæ* aspectu, spicâque in caule ramisve terminali florens, *Blechum* Juss. intelligo, simili ferè ratione originem ducit veluti e contractis *Rungiarum* spicis et in communem spicæ formam redactis, vel (quod idem ferè valet,) e summitate caulis umbelluliferi in spicæ angustias contracta. Cujus rei expositionem ampliorem infrà, ubi de *Blecho Luzonio* sermo erit, invenies.

VII. *Stadia antheseos.* Si quis in arctissimo spicæ ejusdem spatio ad latus fructûs maturi alabastrum videt, expansionem post plures demùm dies moliens, singulari aspectu perculsus ut novum hoc atque insolitum fortassè admirabitur. Mox autem intelliget, causam esse quærendam in multiplici partium, ad ejusmodi spicæ imaginem reductarum et coacervatarum ramificatione. Constat quidem immotâ lege firmatum, florem inferiorem, ubi simplicissima est florum evolutio, præcellere superiorem; ramum verò inferiorem non ita, sed sæpè in his inverti ordinem. In inflorescentia composita hæc res eo cernitur, quod partium evolutio persæpè a vertice ad basin vel a medio spatio sursùm deorsùmque progrediatur. Sed ex hac lege ramificationis, quam *Acanthaceis* scriptam esse demonstravimus, sequitur, eum florem, qui in qualibet parte *primus* oriri et evolvi debuisset, expelli atque exstingui collateralium præcipitatione, et hoc quidem per varios gradus in eadem parte rursùs redire. Ponas igitur, quod naturæ maximè respondet, ternis ad minimum gradibus componi spicam aliquam ex earum numero, quas densas bracteisque tectas videmus, terminales autem simul, ex lege dichotomiarum, priùs evolvi ramos, et statim intelliges, tempora diversorum florum esse uti numeros partium spicæ generalis totiès repetitos, quot sint cujusque partis gradus a summo ad inferiorem, tantoque temporis spatio quemque distare florem perfectum a quolibet altero rami sui (præcociorem seligas vel seriorem nihil interest), quantum temporis consumatur necesse est, ut omnes denique flores ejusdem gradûs, in quo ipse suâ ex parte sedet, post florem collateralem, qui proximè eum antecessit, ordine a summo ad ima spicæ generalis ab integro revoluto, ad sedem ipsius serie regulari præfloruerint, liceatque jam ipsi prodire. Hæc autem, cum triplex compositio minimè omnes gradus ejusmodi spicæ exhauriat, sed plures in plerisque conjuncti sint, innumeris modis variantur atque extenduntur, ita, ut vel in spicis ad speciem penitùs jam exoletis, tenera adhuc in partibus inferioribus florum initia reperias.

VIII. *Folia.* Circa folia *Acanthacearum* pauca habeo, quæ proferam. Opposita esse folia omnium, jam suprà diximus. In spicis autem secundis latebracteatis paria foliorum in spiras parùm elevatas solvuntur. Ejusdem paris folia rarò æqualia, plerisque magìs vel minùs inæqualia, in *Goldfussia anisophylla* alterum cujusque paris exiguum, stipulæ nomine ab auctoribus appellatum. Nec foliorum latera, nec bases eorum ubique sunt æqualia. Simplicia folia sunt omnibus;—composita, vel omninò etiam lobata, frustrà quæres. Bracteæ nonnullarum in cilia rigida laceratæ inveniuntur. Sessilia rariùs sunt, vel subamplexicaulia, plerùmque in petiolum brevem, mediocrem, longum, longissimum, in fruticosis juncturâ insertum et cicatriculam post lapsum relinquentem, attenuata vel decurrentia;—acuta plerisque vel exquisitè acuminata, acumine tum quidem in multis obtusato;—aliis omninò integerrima vel obiter repanda (præsertim illis, quæ flore irregulari gaudent), aliis evidentiùs repanda, crenata, dentata, vel serrata, marginatione vix usquam penitùs regulari. In paucis dentes grandiores, et ii etiam spinescentes, subangulata provocant folia. Costa media omnium in apicem excurrit, pennatim ramos emittens numero satis constante, per paria approximatos quidem sed sæpè ad speciem ferè æquè dissitos alternantesque, qui quidem nervi omnium arcu apicem versus procurrunt et brevi intra margines spatio venis arcuatim connectuntur plexum submarginalem struentes. Ubi latiore basi adhærent folia, maximèque floralia et bractealia, sæpè nervosa magìsque venoso-nervosa cernuntur. Texturæ sunt apud plerasque laxæ et mollioris; nonnullis rigidiora et subcoriacea. Color virens, amœnus, herbarum juvenilium, quandoque integumenti culpâ tristior.

De foliorum integumento jam diximus. Figura foliorum in plurimis hujus familiæ plantis tam parùm variatur, ut multa e solis foliis vix a peritissimo distinguantur; ovalia, vel ex ovato-elliptica sunt plerisque ab altera parte ad ovata et subrotunda, rariori exemplo,—ab altera frequentiùs ad lanceolata et linearia transgredientia. Ramorum evidenter minora, præsertim breviora inveniuntur, quàm caulis folia. Cum inflorescentia derepente intrant folia minora, per gradus angustiora, linearia denique et subulata, ramificationes succedaneas inflorescentiæ sequentia. Cum ipso denique flore decrementum foliorum vel æquo passu progreditur, vel nova exsurgit foliorum bractealium diversorum graduum generatio, novo decremento obnoxia. In casu priori flores ferè denudati, parvis bracteis bracteolisque, his rarò, secundum ramificationis regulam, deficientibus, suffulti proveniunt. In posteriori casu, novæ elegantiorisque formæ folia, magnitudinis diversæ, subrotunda, spathulata, reniformia, ovata, e. s. p., margine nuda vel ciliata, obtusa, vel vario modo acutata, mutica vel mucronata apiceve spinosa, herbacea vel membranacea, colorata, pulchrè venosa, reticulata, vel etiam nervosa, glabra, villosa, hirsuta, glandulosa, etc. in limitibus florum renascuntur, quibus omnibus eadem fermè lex scripta est decrementi per gradus divisionum altiorum, donec et horum series in bracteolas pedicelli, i. e. ramuli ulterius non evolubilis abit, exiguas sæpè, subulatas vel setaceas. Ubi cunqueautem ab inferiori quacunque divisione ad summam fit saltus, ibidem et bractearum latiorum et elegantiorum formæ bracteolarum loco ipsis floribus subjectæ vel conjunctæ esse videntur. In *Aetheilematibus* quibusdam bracteæ latæ et tenerrimæ, in petiolum contractæ, ita cum pedunculo coalescunt, ut, sepalo calycis superiori, grandissimo hoc in genere bracteisque conformi, oppositæ singulæ partem calycis ferè constituere videantur sexfidi, seu, vice versâ, sepalum illud grandius bracteolam alteram. Inter species prioris et posterioris ordinis medium ferè tenent eæ, quibus flores, spicati vel capitati, bracteis foventur purè foliaceis foliisque similibus, a quibus non aliter differunt, ac folia ramea superioraque caulium ab inferioribus. Ejusmodi sunt bracteæ multarum *Ruelliarum*, *Nelsoniarum*, etc.

IX. *Dispositio partium floris.* Calyx æqualis et regularis frequentior occurrit ac ejus e partium coalitione mutationes, quæ quidem sunt: 1, augetur superioris sepali volumen; 2, coalescunt simul duo inferiora sepala spatio minore vel majore; 3, diminuuntur simul duo lateralia et inter superius inferiusque grandefacta, quandoque quoad ambitum penitùs integra, latentia calycem primùm intuenti diphyllum bivalvem fingunt. Calyx normaliter pentasepalus est, sepalis basi magìs minusvè conjunctis, uno supero medio, binis lateralibus, his dictis paullò magìs in nexum communem proclivibus, binis inferis; hæc, ubi quinque, in universum proportione æquali et congruâ. Æstivatio calycis paullò altiùs gamosepali valvata, laciniis omni ferè tempore discretis.

Corolla pentapetala, gamopetala, petalis unguiculatis, unguibus in tubum quinquenervem connatis. Nervi medii unguium sepalis interpositi. Limbi divisio plerisque irregularis, magìs minusvè bilabiata, partibus duabus in labium superius, tribus in inferius coalescentibus. (De æstivatione v. infrà.)

Stamina quinque sepalis alterna et projecturis totidem ad basin usque tubi decurrentia, quo decemstriatus exorditur tubus. Sed nunquam omnia perfecta sunt stamina, semper deletum vel maximè incompletum est superius, frequenter aboliuntur vel imperfectiora prodeunt duo inferiora. Singularis est in hac familia locellorum situs haud raró inæqualis remotiorque, connectivo interjecto crassiore. Hæc veró pendere videntur a nisu generali omnium hujus familiæ plantarum, quo ad dichotomiam inæqualem, i. e. altero furcæ ramo vel debilitato vel deficiente, feruntur. Hinc oriuntur inæqualia parium eorundem folia, hinc foliorum magisque etiam bractearum bases obliquæ, spicæ secundæ binis bractearum ordinibus sterilibus juxtapositis binisque alterius lateris florigeris, hinc calyces sæpè inæquales, v. c. *Barleriæ* calyx e binis paribus foliorum inæqualium in spiram resolutis constructus. Antherarum locello altero penitùs evanescente, exoritur anthera bilocellata, et tum ferè semper antheræ cujusque paris ante pollinis emissionem cum interiore margine cohærent. Alterâ autem viâ producitur anthera, specie magìs quàm re verâ unilocellata, cum locelli duo juxtapositi arctissimeque contigui lateribus inæqualibus ita convergunt, ut angustiora latera conjuncta quasi in dissepimentulum retrahantur unius locelli, ab oppositis utrorumque locellorum marginibus clausi.

Carpella quatuor, sepalis alterna, quinto, sepalorum duorum inferiorum spatio medio responsuro, deficiente in omnibus. Carpella hæc in capsulam unam concrescunt, cujus sutura labiis respondet, dissepimentum autem sepalis lateralibus. Carpellorum conjunctio in ovario tenero facilis conspectu, ex eo indè tempore ad statum usque maturitatis continuâ observatione persequenda. Constat ovarium e quaternis foliolis situ modò descripto dispositis et facillimâ operâ separandis, quæ nervulo singulo medio ternisque undatis potiusque venulis quàm nervis dicendis ad basin instructa sunt[*] et sese marginibus contingentia immediatè (valvatim) connectuntur.—Diversa autem est ratio hujus juncturæ; scilicet: margines carpellorum, e regione supera et infera floris sibi contigui, post modicam flexuram, costulam introrsùm projicientem (trophospermium igitur molientem nec perficientem ideoque aspermam), extenuati ita coalescunt, ut facilè tamen in linea ista tenuissima partibiles suturam construant. Contra ea veró margines collaterales carpellorum ad latus dextrum et sinistrum floris conversi, flexurâ simili factâ costulamque introrsùm elevantes, his ipsis costulis arctè coalescunt, trophospermia fertilia perficientes, simulque membranam internam centrum versus propellunt, dissepimentum, axin fructûs ut plurimùm attingens, rariùs lacunam centralem relinquens, secundum axem separabile in omnibus conficientes, quod dissepimentum quidem e binis lamellis coalitum, plerumque seu simplex lamina diversæ crassitudinis et rigiditatis persistit, rariùs post maturum fructum a strato suturali exteriore incrassatoque costularum geminarum solutum, arcu elastico sursùm versus attollitur, vel etiam, liberum aut costis inhærens, rursùs in duas, e quibus exortum est, lamellulas discedit. Hæc partium constituentium origo atque conjunctio in capsula explanata proditur costis senis obscurioribus, quarum duæ laterales, binæ autem superiores sunt et inferiores. In sicco autem et in sese contracto fructu his costis respondent totidem sulci, quorum bini superiores et inferiores suturam relevant e duplicatura spatii illius membranacei constantem, qui singuli veró ab utroque latere decurrunt sulculi, hi dissepimenti originem, intrante inter costulas contiguas membranâ interiore septum conficiente, designant.

Cum hac pericarpii et dissepimenti structura conjunctus est retinaculorum, seu fulcrorum seminum, apparatus memorabilis. Etenim ubicunque ovulum e margine carpelli spermatico et dissepimentali propullulat, ibidem et processus ipsius dissepimenti, sive carpelli, prominet, variæ figuræ, cum funiculo umbilicali conjunctus semenque fulciens. Tres hucusque mihi cognitæ sunt retinaculorum formæ, valdè diversæ: a) *papillaria*, brevia, funiculum umbilicalem non superantia, illique a parte infera et ex utroque latere connata, simplicis funiculi papilliformis speciem exhibentia; ejusmodi sunt retinacula *Nelsoniearum*, quorum similia fortasse et in aliis plantarum familiis reperiuntur; b) *cupularia*, cartilaginea, crassa, funiculum per centrum suum transmittentia, seminis ferè latitudine idque basi arctè amplectentia atque cum eo tam intimè connata, ut simul a trophospermio cadentia, seminis pars esse videantur; talia sunt *Thunbergiearum* retinacula; c) *uncinata*, quæ magìs obvia et frequentior retinaculorum forma *Echmatacanthis* communis est. Sunt processus subulati vel laminiformes, acuti vel obtusi, vel bidentes, plani vel a latere curvaturæ interioris magìs minusvè excavati, quandoque cochleariformes, semen ab inferiore et interiore parte amplectentes et fulcientes, basi cum funiculo umbilicali coalescentes. Communiter *sessilia* sunt ista retinacula uncinata, aut ad basin, aut proximè a basi, semen in funiculo brevissimo ferentia. Occurrunt autem et *stipitata* retinacula, quæ spatio aliquo cum funiculo connata eâque parte angustiora, propiùs ab apice semen proferunt, a reliqua parte retinaculi, breviori quidem, latiuscula squamiformi fulcrata. Stipitata hæc retinacula a dissepimento cadunt; sessilia persistunt. A prævalenti nisu, bracteas bracteolasque, sæpè secundas producendi, apparatum istum retinaculorum hac in familia provocari haud improbabile videtur. Obliquitas partium in foliis carpellaribus, uno tantùm latere ovuliferis, satìs evidens est. Quales autem bracteæ et bracteolæ in nonnullis generibus, præsertim in *Lepidagathi* inæquilateræ sunt, et ex uno tantùm margine *cilia rigidula*, serraturas æmulantia, producunt, sic etiam in his margines carpellorum latiores retinacula, in axillis suis ovuligera, i. e. gemmipara, edunt. Quod quidem, in uno hoc bractearum exemplo exhibitum, in omni plantæ ramificatione, inflorescentia, ipsaque florum structura haud magno negotio demonstrandum.

X. *Æstivatio* corollæ regularis *contorta*, spirâ dextrorsùm vergente. Hæc æstivatio per se quidem constans in omnibus Acanthacearum floribus regularibus, sed duplici modo ipsæ in his se tegunt laciniæ. Quæ integræ sunt, planæ per se quidem sibi incumbunt rotamque simplicem obliquam exhibent. Ubicunque autem emarginatæ existunt laciniæ, alter cujusque laciniæ lobus introrsùm flexus a proximæ laciniæ lobo ejusdem lateris intùs contortim obtegitur, ita, ut transversaliter detruncato corollæ limbo decem se tegere lobi, vel potiùs laminæ totidem in angulum fractæ circulo sibi incumbere videantur. In corolla bilabiata labium inferius sursùm inflexum superius apicibus laciniarum concavis arctissimè amplectitur. Laciniæ duæ laterales labii inferioris mediam, quæ paullò interior, tegunt. In hisce igitur floribus æstivatio contorta in imbricatam transit. Stamen interstitiis laciniarum duarum superiorum respondens deest. Stamina duo illa, quæ in spatio labia dirimente proveniunt, perficiuntur. Illa, quæ laciniis labii inferioris interponuntur, vel breviora sunt, vel imperfecta, vel obliterantur. Quò magìs labiorum divisiones coalescunt, ut in *Dicliptereis* plerisque, eò constantiore lege desunt staminum inferiorum rudimenta. In *Hypoëste* resurgunt cum labio inferiore, in tres lacinias jam ad basin ferè soluto.

XI. *Ovulum.* Pars illa, quam in semine maturo retinaculi nomine appellamus, ante evolutionem ovuli cum eodem tam arctè conjuncta apparet, ut suturâ tantùm obliquâ distinguatur. Tunc temporis autem ejusdem est massæ atque texturæ subcartilagineæ, quam in ipso ovulo, præsertim in ejus nucleo seu tertia membrana observamus. Forma ejus est coni obliqui, obtusi, basi dilatati, in facie inferiore convexi, in superiore, cui ovulum incumbit, canaliculati, ad utrumque latus inferiora versus lobulo seu alulâ parvâ latera ovuli amplectentis, qui lobuli haud raró cum semine arctiùs conjuncti perstant et aream parvam rotundatam pallidiorem ad ejus basin ab utroque latere construunt. Retracto retinaculi apice funiculi fasciculum vides in ovuli basin intrantem. Ovulum ipsum plerumque ovatum et compressiusculum mox introrsum, i. e. centrum versus, ad basin retinaculi recurrit ibidemque angulo altero baseos magìs prominulo, cui exostomium respondet, terminatur. Membrana prima et secunda conformes ferè, tenues, cellulosæ, structuræ ejusdem, quam in aliis ovulis invenimus; tertia, quæ nucleum construit, in ovulo jam penitùs reverso obovata, basi superâ obtusâ rotundatâque, apice infero conico obtusoque angulum ovuli prominulum explens. Retinaculi generationem benè si consideraveris, simile id esse dices cylindro illo *Statices* accessoris vel eminentiæ illi extinctorii formæ *Euphorbiacearum*, quas partes, a funiculo umbilicali ab initio discretas, demùm exostomium attingere crescendo et cum semine coalescere ab oculatissimo Mirbelio edocti sumus. Conf. *Ann. des Sc. Nat., Juil.* 1829, p. 311. t. 15. f. 5. et t. 13. f. 1—6. *R. Br. Verm. Bot. Schr. ed. N. ab E.* iv. p. 528 sqq. t. 5. f. 11—17. Differentia omnis in eo quærenda, quod processus ille accessorius seu secundi ordinis exostomio respondens, (ductus auræ seminalis Aug. de St. Hil.) non aliundè accrescat ovulo, sed statim ab initio funiculo conjunctus exspectet quasi ejus conversionem. In *Statice* ovulum, primò deorsùm spectans, erigitur ut processum accessorium, a parte supera descendentem, ore continget, in *Euphorbiis* primitùs adscendens eminentiæ succrescenti denique spontè occurrit; hæc autem utraque quæ diximus anatropica sunt ovula, *Acanthaceis* autem nostris CAMPYLOTROPICA.

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[*] Qui bracteolam *Adhatodæ Betonicæ* venâ mediâ laxè ramificatâ ramisque furcatis circa margines in plexum undatum confluentibus instructam intuitus fuerit, vix diversam a carpello hujusmodi structuram esse fatebitur.

XII. *Semen* (*Justiciæ Ecbolii*). Oblique cordatum, altero lobo cui radicula seu exostomium respondet, productiore, compressum, margine tumido solidoque cinctum. Pellicula non mucilaginosa, in tubercula sicca pallida inæqualia corrugata. Testa crassa, transversaliter fibrosa, coriacea in maturo semine pallidè fusca. Hilum in sinus cordiformis basi media, lineare. Membrana interna tenuis, hyalina, nitida, a testa solubilis. Chalaza parva, depressa, hilo exteriori subjecta, paullò obscurior in basi membranæ internæ. Albumen nullum. Embryo figurâ cavi seminis interni, quæ eadem atque ipsius seminis. Cotyledones magnæ, carnoso-molles, oblique cordatæ, lobo productiore basin constituente ubi radicula sita est. Membrana, quæ embryonem cingit vel cum membrana interna confluit, vel tenuissima, vix apparet. Radicula obtusè conica, prominula; gemmula subrotunda, compressa.

Characteres genericos hoc ordine disposuit cl. R. Brownius, a gravissimis ad leviores progrediens (Prodr. Fl. N. Holl. p. 474; ed. 2. p. 330): "Semina cum vel absque retinaculis. Dissepimentum valvis adnatum vel liberum. Antheræ biloculares vel uniloculares. Stamina antherifera duo vel quatuor. Corollæ irregularis limbus bi- vel uni-labiatus. Calyx æqualis vel inæqualis. Capsulæ loculi di-polyspermi." Quibus, ut vacillantes, subjunxit, qui sequuntur: corollam subregularem, et tunc modo hypocrateriformem antheris duabus exsertis, vel infundibuliformem antheris quatuor inclusis; corollæ irregularis labiatæ formam et divisionem labiorum; antherarum locellorum situm diversum, a connectivi forma et volumine pendentem, eorundemque appendices varias; filamentorum sterilium in diandris accessum vel defectum; capsularum valvulas compressas vel naviculares, sessiles vel in unguem contractas.

Et mihi quoque, post multas observationes, in plurimis utriusque hemisphæræ nostræ plantis Acanthaceis diligenter institutas, istos characteres sola et vera generum stabilium fundamenta præbere persuasum est. In nonnullis tamen, quod ad dignitatem characterum, a clarissimi magistri sententia discedere coactus sum, cujus rei rationes hìc brevi exponam. Quod ad retinacula attinet, fundamenta hæc mihi sunt tribuum, primoque sanè loco inter omnes reliquos characteres æstimata. Reliquorum autem characterum ordinem non minùs gravem et fideliter observandum ad dispositionem familiæ habuissem, si in pauca tantùm genera commodè dissolvi posse Acanthacearum agmen cognovissem. Sed in hoc moliendo summis difficultatibus implexus eram, quas quomodò illæsis summi magistri mei præceptis superarem, nusquam inveni. Nam ubicunque, ad singulos graviores quosdam characteres totus conversus, ampliora Acanthacearum genera construxeram, inter alias maximè familiares nonnullas deprehendi species a me receptas, quæ toto cœlo differre et longè, ut ita dicam, dissitæ regionis cives esse viderentur. Hæc mihi cum iterum iterumque accidissent, in causam cœpi inquirere tantæ inter conjunctas discrepantiæ. Quæ certiora reperisse puto, hæc sunt. Nihil magìs esse in se conveniens et congruum istâ familiâ,—unum tamen innatum esse omnibus ejus membris veluti vitium congenitum, cui omnia diversissimo modo obnoxia, a communi tramite in regularem quandam neque inelegantem perturbationem atque luxuriem, niti cogantur. Hanc causam esse summæ multiplicisque diversitatis, sub specie summæ congruentiæ latentis, neque prius genera pura, i. e., quæ primo intuitu distinguantur, circumscribi posse, quam discrepantiæ causæ pateant, et characterum generalium vi et congruentiâ quasi emollitæ ex odio prisco in gratiam reducantur. Igitur, cum duplex typus evolutionis in hac familia existat, alter concinnitatis symmetricæ, alter concinnitatis asymmetricæ, neuter autem horum per se solus vel dominetur vel serviat, sed potiùs uterque ex utroque procedat et in eundem locum revertatur, tot genera proponenda esse censebam, quot modi inveniantur oppositorum in puncto quodam communi congruentium. Discrepantia autem seu typus concinnitatis asymmetricæ, ab altera parte in fructificatione patet, ab altera per inflorescentiam evolvitur, idemque valet de altero typo, qui ducit ad communem symmetriam. Quatenùs igitur alienam a typo aliquo inflorescentiam, neque ex eodem rectâ viâ derivandam, cum fructificatione in gravioribus congrua conjunctam inveni, advocato in auxilium charactere inferioris quidem notæ, sed earundem ut ita dicam partium, i. e., concinnitatis vel symmetricæ vel asymmetricæ, novum genus exstruxi, idemque feci, simulac idem casus ab altera quaqua parte recurrebat. Sequebatur ex his, characteres, quos inter vacillantes posuit ill. Brownius, imprimis eos, qui a corollæ et antherarum structura penitiore pendent, cum quoque superiorum seorsìm vel plures junctìm compositos ad distinguenda genera advocatos esse, ipsumque numerum seminum, in una capsula contentorum, dignitatem in plerisque haud spernendam recuperasse. Sic, v. c., capsula, basi longo tractu angustior valvisque plano-contiguis aspermisque instructa, suâ ex parte visa, est ut corolla tubo elongato, ut stamina altiùs inserta, ut flores etc. longioribus pedunculis sublati. Sic antherarum locelli diversâ ratione a situ communi concinnoque aberrantes in ipso flore sunt ut inflorescentia secunda vel asymmetrica, ut folia inæquilatera, vel diversæ in eodem pare magnitudinis, et s. p. Id autem probè notandum, non pari lege concinnitatem et inconcinnitatem partium conjungi, sed rationibus maximè diversis, quæ quidem vera et præcipua causa est generum multiplicium intra eosdem limites instruendorum et exstructorum. Si v. c. artificiosis combinationibus uti placeret, triplex in universum posceretur conjunctio, scil. concinnitatis, inconcinnitatis, et utriusque cum altera conjunctæ. Qui tres modi tùm in singulis partibus per se, tùm in pluribus conjunctis expressi, genera artificialia præberent,—naturalia autem ea tantùm existimo, quæ per se spectata, unum et integrum corpus exhibent, ab omni parte congruum et Acanthacearum aspectum communem, additâ vel deletâ aliquâ picturæ lineâ, excolere videntur atque perficere. Quæ cuncta e tabula synoptica generum, ad quam nunc transimus, clariùs apparebunt.

Tabula synoptica Generum ACANTHACEARUM INDIÆ ORIENTALIS.

Tribus I. THUNBERGIEÆ. Semina retinaculis in cupulam corneam dilatatis seminique adnatis suffulta.

1. *Thunbergia* Linn. Corolla infundibuliformi-campanulata faucibus inflatis, limbo horizontali. Antheræ omnes basi unicalcaratæ margine ciliatæ. Stigma bilabiato-infundibuliforme.—Flores axillares, solitarii vel racemosi.
2. *Meyenia.* Corolla infundibuliformis tubo brevissimo annulo piloso clauso. Antheræ apice barbatæ, staminum majorum locelli obliqui inferus bimucronulatus, minorum paralleli mutici. Stigma bilabiato-infundibuliforme.—Flores axillares, pedunculati.
3. *Hexacentris.* Corolla infundibuliformi-campanulata limbo obliquo, tubo brevissimo. Antheræ glabræ locellis parallelis; majorum staminum altero basi calcarato altero mucronulato, minorum utroque longissimè calcarato.—Racemi axillares et terminales multiflori.

Tribus II. NELSONIEÆ. Retinacula in papillæ formam contracta semina ferentia nec fulcientia. Semina parva, scrobiculata.

a. Diandræ.

4. *Elytraria* Vahl. Calyx quinquepartitus, inæqualis. Corolla bilabiata. Stamina duo absque rudimentis paris alterius. Antherarum locelli paralleli. (Capsulæ loculi a basi octospermi.)—Spicæ in scapis radicalibus squamatis.

5. *Nelsonia* R. Br. Calyx quadripartitus, inæqualis, laciniâ inferâ bifidâ. Staminum duorum sterilium rudimenta. Antherarum locelli obliquè divergentes. (Capsulæ loculi a basi octospermi.)—Spicæ bracteatæ (tomentosæ).

b. Didynamæ.

6. *Adenosma* R. Br. Corolla ringens. Capsula polysperma.—Spica terminalis, foliaceo-bracteata.

7. *Ebermaiera.* Corolla infundibuliformis limbo quinquefido subæquali. Stigma bilamellatum, tricuspidatum. Capsula a basi polysperma.—Racemus vel spica terminalis, quandoque in capitulum contracta, foliaceo-bracteata.

8. *Erythracanthus.* Corolla infundibuliformis limbo quinquefido æquali. Stigma bilamellatum, lamellâ superiori breviori truncatâ. Capsula basi asperma, in parte superiori polysperma.—Racemulus terminalis bracteis parvis floribusque subalternis.

Tribus III. ECHMATACANTHI. Semina retinaculis uncinatis suffulta.

Subtribus I. HYGROPHILEÆ. Corolla ringens. Stamina vel quatuor didynama, vel duo, rudimentis alterius paris adjectis. Antheræ bilocellatæ, basi sagittatæ, locellis parallelis muticis. Capsula angusta, a basi polysperma. Retinacula brevia.

9. *Hemiadelphis.* Stamina duo, filamentis basi dilatatis introrsùm filamento sterili subulato connatis. Antheræ post pollen emissum contortæ.—Flores in spicam foliaceo-bracteatam dispositi.

10. *Hygrophila* R. Br. Stamina quatuor didynama. Antheræ rectæ.—Flores verticillati.

Subtribus II. RUELLIEÆ. Corollæ tubus ratione limbi brevis, fauces magìs vel minùs inflatæ, limbus æqualis vel subbilabiatus, nunquam distinctè bilabiatus vel ringens. Stamina quatuor didynama, rarissimè duo tantùm. Antheræ bilocellatæ, locellis in plurimis parallelis.

Dispositio generum Ruelliearum habitualis, ab inflorescentiæ diversa evolutione pendens.—Ponas, flores axillares infimum esse hujus evolutionis gradum, quippe in qua jam prima rami divisio evanescat solusque medius flos superstes existat; sequitur jam gradus alter, ubi flores versus apicem caulis et ramorum bracteis propriis suffulti, bracteolisque ad basin oppositis præditi, sæpè etiam glomerati vel fasciculati ad propriam inflorescentiæ ramificationem nituntur; quo magìs nisus ramificandi invalescit, eo magìs bracteæ infirmantur atque decrescunt, oriuntur spicæ, et denique inflorescentiæ racemosæ, simplices vel divisæ, bracteis bracteolisque parvis instructæ, quibus patet, jam ipsas quas bracteas ob situm suum appellari oportet, bracteolarum superiori loco demùm intrare. Hæc autem in ista familia summa esse solet in universum evolutionis inflorescentiæ. Quæ magìs ad libertatem tendit, rarissima est, paniculatam dico, dichotomam, multifloram, foliolis e foliis intra paniculam decrescentibus interstinctam. Genera secundum hunc progressum sic disponenda: *Gradus prior;* flores axillares, in spicam tendentes: 11. *Dyschoriste.* 12. *Dipteracanthus.* 13. *Petalidium.*—*Gradus secundus;* spicæ, bracteis arctè inclusæ, magìs minusvè strobilaceæ: 14. *Ruellia.* 15. *Phlebophyllum.* 16. *Buteraea.* 17. *Adenacanthus.* 18. *Stenosiphonium.* 19. *Strobilanthes* (ubi bractearum in Sectione tertia defluxu jam ulterior præparatur in spicam nudam et denique in paniculam evolutio, hæc verò magìs etiam perficitur in generibus sequentibus). 20. *Aechmanthera.* 21. *Goldfussia.*—*Gradus tertius;* spicæ parvibracteatæ, pleræque secundifloræ: 22. *Asystasia.* 23. *Echinacanthus.*—*Gradus quartus;* panicula laxa, microphylla. 24. *Leptacanthus.*

Sequitur jam generum ordo ad lectoris commodum methodo artificiali accommodatus:

a. Calyx quinquedivisus, regularis, vel laciniis subinæqualibus, sed non binis vel pluribus earum in unam conjunctis.

23. *Echinacanthus.* Capsula polysperma, teretiuscula, a basi seminifera. Antheræ basi calcaratæ.—Cymæ secundifloræ.

12. *Dipteracanthus.* Capsula 12-sperma, infernè compressa.—Flores fasciculati vel solitarii axillares, foliaceo-bibracteolati.

14. *Ruellia.* Capsula 6—8-sperma, a basi seminifera, tetragona. Corolla infundibuliformis tubo sensim in fauces dilatato. Antheræ muticæ.—Spicæ breves, foliaceæ.

20. *Aechmanthera.* Capsula 8-sperma, a basi seminifera, tetragona. Corolla infundibuliformis tubo sensìm in fauces dilatato. Antheræ apice cuspidatæ.—Capitula paniculatìm distributa.

18. *Stenosiphonium.* Capsula 8-sperma, a basi seminifera, tetragona. Corolla tubo tenuissimo, limbo abruptè inflato-campanulato. Antheræ muticæ. Calyx primùm semiquinquefidus, demùm ad basin disrumpens.—Spicæ floribus glomeratìm aut simpliciter oppositis distantibus bracteatis.

19. *Strobilanthes,* Bl. Capsula in medio tetrasperma ad basin bilocularis vel brevissimo tantùm spatio a basi clausa, tetragona. Corolla infundibuliformis. Antheræ erectæ, locellis parallelis. Calyx quinquepartitus.—Spicæ densæ, bracteis latis.

21. *Goldfussia.* Capsula sexangularis juxta basin vel prope a basi tetrasperma. Corolla infundibuliformis. Antheræ nutantes, locellis brevibus in connectivo glanduloso obliquis.—Spicæ in capitula contractæ.

22. *Asystasia* Bl. Capsula longo tractu a basi clausa, asperma, compressa, in superiori parte tetrasperma. Corolla infundibuliformis. Antheræ erectæ, locellis parallelis. Calyx quinquepartitus. Spicæ vel racemi, laxi, secundi, bracteis bracteolisque parvis.

13. *Petalidium.* Capsula brevi spatio a basi asperma commissurâ planâ, superiùs tetrasperma. Calyx quinquepartitus, bracteolis duabus magnis valvatis tectus. Corolla infundibuliformis. Antherarum locelli paralleli, basi aristati.—Flores axillares, solitarii vel fasciculati.

11. *Dyschoriste.* Capsula oblonga, depresso-tetragona, rigida, juxta basin ferè tetrasperma. Calyx tubulosus, ad medium ferè quinquefidus. Corolla infundibuliformis limbo obliquo. Antherarum locelli paralleli, basi mucronati.—Flores axillares, sessiles, basi bracteolis binis foliaceis.

24. *Leptacanthus.* Capsula a basi tetrasperma. Calyx inæqualis, laciniis duabus superioribus longioribus, mediis brevioribus. Corolla infundibuliformis, laciniis duabus superioribus majoribus adscendentibus. Antherarum locelli paralleli, antrorsùm contigui.—Panicula trichotoma, foliolosa; bracteis bracteolisque propriè sic dicendis nullis.

b. Calyx irregularis, laciniis nonnullis in unam confluentibus. Corolla infundibuliformis in omnibus.—Spicæ magìs vel minùs densæ, bracteis latis vel latiusculis.

15. *Phlebophyllum.* Diandrum. Calyx quadripartitus laciniâ superiore profundè bifida. (Capsula basi contigua, apice tetrasperma.)

17. *Adenacanthus.* Calyx tripartitus, laciniâ superiore trifidâ. Capsula supra basin tetrasperma.

16. *Buteraea.* Calyx bipartitus, labio superiore breviore bifido, inferiore profundè bifido. Antherarum locelli paralleli. (Capsula supra basin tetrasperma.)

Subtribus III. BARLERIEÆ. Corollæ tubus ratione limbi brevis, fauces magìs vel minùs inflatæ, limbus inæqualis cum faucibus infundibuliformis, vel bilabiatus. Stamina quatuor didynama, tubo circa basin inserta, altero pare brevissimo. Antheræ bilocellatæ. Calyx inæqualis, in aliis quadripartitus, laciniis superiore et inferiore majoribus, mediis interioribusque minoribus, in aliis subbilabiatus, bi- vel quinque-partitus. Capsula omnium juxta basin tetra-, rariùs di-sperma.

25. *Asteracantha.* Calyx quadripartitus (laciniâ superâ paullò minore, inferiore bidentatâ). Corolla profundè bilabiata.—Flores verticillati.

26. *Barleria* Linn. Calyx quadripartitus (laciniis superâ et inferâ maximis). Corolla infundibuliformis laciniâ superiore conversione quandoque inferiore breviore.—Flores axillares vel spicati.

Lophostachys Pohl. Calyx quadripartitus (laciniis superâ et inferâ

—nec lateralibus, ut habet cl. Pohlius—maximis). Corolla tubulosa, bilabiata.—Spicæ terminali-aggregatæ, compressæ, secundæ, bracteatæ, bracteis bracteolisque conformibus coloratis, dorsalibus ananthis.

27. *Aetheilema* R. Br. Calyx quinquepartitus laciniâ superiore maximâ bracteiformi. Corolla bilabiata vel ringens. Antheræ locellis parallelis.—Spicæ vel racemuli axillares pauciflori, bracteis magnis, bracteolis nullis.

28. *Lepidagathis* Willd. Calyx quinquepartitus laciniâ superiore maximâ vel saltèm majore reliquis. Corolla bilabiata, labio superiore bi-, inferiore trifido laciniis conformibus.—Spicæ axillares, plerisque infernè glomerato-compositæ, densæ, bracteatæ, secundæ. Bractearum paria in spiras arctas dissoluta.

29. *Neuracanthus.* Calyx bilabiatus labio superiore trifido, inferiore bifido. Corolla bilabiata. Antheræ bilocellatæ locellis basi divergentibus.—Spicæ axillares, tetragonæ, densè bracteatæ, bracteis nervosis rigidis.

Subtribus IV. ACANTHEÆ. Corolla unilabiata, tubo basi subcartilagineo. Stamina quatuor subdidynama; antheræ unilocellatæ. Calyx quadripartitus inæqualis, laciniâ inferâ et superâ latioribus. Capsula omnium circa basin tetrasperma.

30. *Blepharis* Juss. Staminum minorum locellus in connectivo obtuso lateralis, sessilis vel substipitatus. Spicæ axillares unifloræ, basi bracteis sterilibus (fimbriatis) densè imbricatæ.

31. *Acanthus* Linn. Stamina minora apice inflexa; antheræ locellus in filamenti unco transversalis.—Spica terminalis. Flores tribracteati (bracteâ et bracteolis latis), bracteâ setaceo-ciliatâ.

32. *Dilivaria* Juss. Stamina majora et minora conformia, locellis adnatis.—Spica terminalis. Bracteæ et bracteolæ conformes, integerrimæ.

Subtribus V. JUSTICIEÆ. Corolla—paucis subinfundibuliformis limbo obliquo subregulari vel indeterminatè bilabiato, tubo incurvo; —plerisque bilabiata vel ringens, nonnullis hypocrateriformis limbo regulari vel bilabiato labio superiore angusto; omnibus autem orthotropa seu labio superiore cum staminibus sursùm vergente. Stamina duo tubi (variæ longitudinis) terminis inserta; rariùs quatuor, vel minoribus incompletis, vel didynama, tum verò antheræ cunctorum vel alterius paris saltèm unilocellatæ. Antheræ plerisque bilocellatæ locellis situ variis, parallelis vel obliquè distantibus, muticis calcaratisve. Calyx ratione corollæ parvus, vel quadrifidus subquadrifidusve laciniâ superiore minutâ, vel (plerisque) quinquefidus, æqualis aut subæqualis. Capsula dissepimentis adnatis in plerisque tetra-, paucis pleio-sperma.

Divisio 1. RUELLIOIDEÆ. Calyx quinquefidus. Corolla tubo longo incurvo, vel recto strictoque, limbo obliquo quinquefido vel indeterminatè bilabiato et tum verò brevi. Stamina vel quatuor didynama antheris unilocellatis, vel duo perfecta in nonnullis filamentis sterilibus stipata. Antherarum locelli paralleli, quandoque ob septum retractum antheræ ad speciem unilocellatæ. Capsula tetra-pleiosperma. Flores in thyrsis racemisve elongatis vel spicis terminalibus, vario modo bracteati.

33. *Crossandra* Salisb. Corollæ limbus quinquefidus, a tergo ad tubum usque fissus. Stamina quatuor, antheris unilocellatis. Capsula juxta basin tetrasperma.—Spica terminalis, densè bracteata.

34. *Endopogon.* Corolla bilabiata inflata, labio superiore bifido latiore, intùs in canali pilis cincto stylum recondente. Stamina sterilia nulla. Capsula propè a basi tetrasperma.—Spicæ bracteatæ, floribus oppositis solitariis.

35. *Loxanthus.* Corollæ limbus obliquus subregularis; tubus incurvus. Stamina sterilia duo. Capsula a basi polysperma. Thyrsus terminalis.

36. *Phlogacanthus.* Corolla bilabiata, labio superiore bifido latiore; tubus incurvus. Stamina sterilia nulla. Capsula basi asperma, superiùs octosperma.—Racemus terminalis.

37. *Cryptophragmium.* Corolla bilabiata, labio superiore bifido breviore; tubus elongato-obconicus, strictus. Stamina sterilia nulla. Antheræ ob septum medium retractum unilocellatæ. Capsula a basi polysperma.—Spica terminalis, glomerato-interrupta.

Divisio 2. GENDARUSSEÆ. Calyx quadrifidus vel quinquefidus. Corolla ringens, in speciebus calyce quadrifido instructis tantùm bilabiata. Stamina paucis didynama antheris omnium vel inferioris paris unilocellatis; plerisque duo absque sterilium accessu. Antherarum locelli vel paralleli vel (apud plerasque) divergentes, mutici vel calcarati. Capsula tetrasperma, plerisque basi asperma compressa valvis contiguis.—Flores spicati, variè bracteati; ubi spica e floribus glomeratis constat, angustiores sunt bracteæ.

A. Calyx quadrifidus vel subquinquefidus laciniâ superâ minimâ.

38. *Rostellaria.* Stamina duo. Antherarum locellus inferior basi imperfectus in cornu obtusum contractus. Corolla bilabiata, labio superiore plano bidentato. Capsula propè a basi tetrasperma.—Spicæ terminales, bracteis bracteolisque subconformibus calycis laciniis consimilibus.

B. Calyx quinquefidus æqualis.

39. *Hemichoriste.* Stamina quatuor. Antheræ aristatæ, minorum staminum unilocellatæ.—Racemus terminalis.

40. *Graptophyllum.* Stamina duo. Antheræ muticæ, locellis parallelis. Labium superius rectum.—Racemi axillares.

41. *Beloperone.* Stamina duo. Antheræ muticæ vel basi calcaratæ, locellis connectivo semisagittato discretis. Labium superius rectum.—Spicæ axillares, secundæ, bracteis bracteolisque æqualibus longis angustis patulis.

42. *Adhatoda.* Stamina duo. Antherarum locelli obliquè alter super altero positi: inferior calcaratus. Labium superius fornicatum. —Spica bracteis bracteolisque latis tecta.

43. *Gendarussa.* Stamina duo. Antherarum locelli obliquè alter super altero positi: inferior calcaratus. Labium superius fornicatum. —Spica bracteolis parvis, bracteis vel parvis persistentibus vel latioribus deciduis.

44. *Leptostachya.* Stamina duo. Antherarum locelli obliquè alter super altero positi, mutici. Corolla ringens. Spica elongata, laxa. Bracteæ bracteolæque parvæ.

45. *Gymnostachyum.* Stamina duo. Antherarum locelli paralleli, contigui, basi mucronati. Corolla bilabiata, labio superiore bifido minore. Calycis lacinia superior minor. Spica laxa, secunda. Bracteæ subalternæ; bracteolæ nullæ.

Divisio 3. ERANTHEMA. Calyx quinquefidus. Corolla tubo elongato, hypocrateriformis, limbo regulari, vel bilabiato labio superiore angusto. Stamina perfecta duo, fauci superæ inserta, antheris bilocellatis; locelli paralleli vel alter super altero positi, æquales, mutici vel basi mucronati; staminum sterilium in nonnullis rudimenta. Capsula tetrasperma, basi longo tractu compresso-unguiculata asperma valvis contiguis. Flores spicati, variè bracteati, vel glomerati, parvibracteati, spicis tum di-trichotomis.

46. *Eranthemum* R. Br. Corolla hypocrateriformis vel elongato-infundibuliformis, limbo subæquali. Staminum sterilium rudimenta. —Spica, bracteis in aliis latis in aliis parvis, bracteolis conformibus.

47. *Justicia.* Corolla bilabiato-hypocrateriformis labio superiore angusto reflexo. Stamina duo. Antherarum locelli paralleli. Capsula disperma.—Spica bracteis latis herbaceis demùm deciduis, bracteolis parvis.

48. *Rhinacanthus.* Corolla bilabiato-hypocrateriformis labio superiore angusto. Stamina duo. Antherarum locelli alter super altero positi, mutici.—Spicæ, subpaniculatim solutæ, bracteis bracteolisque parvis.

Subtribus VI. DICLIPTEREÆ. Calyx quinquefidus æqualis, pro corolla parvus, tenuis. Corolla bilabiata, plerisque ob torsionem vel tubi vel pedunculi resupinata, labiis similibus vel dissimilibus, subintegris vel ad breve spatium divisis, numero partitionum labii supini ternario, resupinati, i. e. superioris veri binario. Stamina rarò quatuor didynama inclusa, plerisque duo tubi, sæpè longioris, terminis inserta, prominula. Antheræ vel bilocellatæ locellis obliquis vel uno supra alterum positis muticis basive mucronatis, vel unilocellatæ. Capsula subtetragona vel basi compressa, apice valdè depressa, tetrasperma vel octosperma. Dissepimentum in aliis adnatum persistens, in aliis maturo fructu ab imo sursùm elasticè resiliens et capsulæ parietes vel simul attollens, vel seorsim assurgens, retinacula uncinata sessilia basi affixa secum portans; in aliis denique totum solubile secedensque a valvularum tergo. Spicæ bracteatæ, verticillis in spiram distractis, vel capitula bracteis sæpè valvatim positis quasi involucrata, tum umbellatim simulque et flabellatim in caule ramisque disposita; ad extremum seriei, diminutis bracteis capitulisque dissolutis, paniculæ prodeunt di-trichotomæ laxifloræ.—Plantæ pleræque herbaceæ, caule magìs minusvè distinctè sexangulari vel sexsulcato, foliis laxis, floribus teneris purpureis, roseis vel albis, in quibusdam speciosis, in multis parvis quidem sed et his elegantioribus.

A. Dissepimento solubili.

a. Stamina quatuor, didynama.

Blechum Juss. Corolla infundibuliformis. Spicæ quadrifariàm imbricatæ, bracteis omnibus fertilibus. Dissepimentum a valvis secedens.

b. Stamina duo.

49. *Rungia.* Corolla orthotropa, bilabiata. Locellus antherarum inferior basi appendiculatus. Spicæ quadrifariàm bracteatæ, bracteis duorum ordinum superiorum sterilibus. (Dissepimentum cum parietibus lateralibus adscendens.)

50. *Dicliptera.* Corolla resupinata, bilabiata, labio supino tridentato, resupinato integro vel bidentulo. Antheræ muticæ.—Capitula bracteis plurium ordinum, quarum exteriores majores, cincta, in umbellas flabelliformes disposita. (Dissepimentum solum adscendens.)

B. Dissepimento adnato. Capsula ab inferiori parte in omnibus compresso-unguiculata asperma.

Amphiscopia. Corolla orthotropa, ringens. Antheræ muticæ, bilocellatæ, locellis in connectivo lineari distantibus, altero infero retrorsùm spectante.—Spicæ secundæ, bracteis sterilibus minimis.

51. *Peristrophe.* Corolla resupinata, bilabiata, labio supino tridentato, resupinato integro vel bidentulo. Antheræ muticæ, bilocellatæ, locellis angustis uno obliquè juxta alterum posito, post pollen emissum tortæ. Capsula basi longè unguiculatim compressa. (Dissepimentum adnatum.)—Capitula involucro bracteali exteriori bivalvi inclusa, in umbellas flabelliformes magìs minusvè compositas disposita.

52. *Hypoëstes* Soland. et R. Br. Corolla orthotropa, bilabiata, labio inferiori profundè tripartito. Antheræ unilocellatæ, muticæ. Capsula basi breviter unguiculatìm compressa. (Dissepimentum adnatum.)—Capitula, abortu sæpè uniflora, involucro cruciato tetraphyllo, basi sæpè gamophyllo inclusa, umbellatim flabellatimque disposita.

53. *Rhaphidospora.* Corolla resupinata, subringens, labio supino trifido, resupinato concavo. Antheræ bilocellatæ, locello uno supra alterum posito, inferiore basi calcarato. Capsula basi breviter unguiculatìm compressa. (Dissepimentum adnatum.)—Paniculæ di-trichotomæ, floribus capitato-ternis solitariisve, bracteis bracteolisque parvis.

Genus superest incertum: *Justicia aristata* Wall.

Subtribus VII. ANDROGRAPHIDEÆ. Calyx quinquefidus. Corolla bilabiata vel ringens, orthotropa vel versione pedicelli resupinata, labiis dissimilibus, numero divisionum superioris in resupinatis ternario. Antheræ unilocellatæ vel bilocellatæ, locellis obliquis vel parallelis, inferiore magìs minusvè barbato vel lanâ tomentove obliterato. Capsula a basi depressa, non unguiculata, ovalis, pleiosperma. Dissepimentum adnatum. Retinacula squamiformia, pedicello brevi, cui semen inhæret, dissepimento conjuncta, facilè secedentia. Semina teretiuscula vel subangulata. Racemi axillares terminalesque secundiflori, di-trichotomi. Bracteæ parvæ; bracteolæ ad basin pedicellorum bracteis similes vel nullæ.

54. *Erianthera.* Corolla bilabiata labio superiori integro. Antherarum locellus inferior in lanam solutus.—Flores axillares, pedicellati, ebracteati.

55. *Haplanthus.* Corolla subbilabiata, quinquefida, tubo incurvo. Antheræ unilocellatæ, connectivo locelloque abortivo tomentosis.—Racemi axillari-terminales, subspicati. Bracteæ bracteolæque parvæ.

56. *Andrographis* Wall. Corolla (ob situm ad speciem resupinata) bilabiata, labio inferiore (sensu proprio) trifido. Antherarum locelli gemini, subparalleli, basi barbati.—Racemi, perfecti vel spiciformes, axillares, di-trichotomi, secundi. Bracteæ parvæ; bracteolæ nullæ.

ACANTHACEÆ INDIÆ ORIENTALIS.

Tribus I. THUNBERGIEÆ.

1. THUNBERGIA *Linn.*

Calyx brevis cupuliformis, truncatus aut pluridentatus, dentibus tùm pluribus quàm decem. Bracteæ duæ ad basin calycis, calyce majores eumque ante anthesin valvatim tegentes. Corolla campanulato-infundibuliformis, fauce inflatâ, limbo quinquefido patente subæquali. Stamina quatuor didynama. Antheræ erectæ, adnatæ, bilocellatæ locellis parallelis margine ciliato-barbatis, altero basi paullò breviore ibidemque in calcar aristiforme producto. Stigma infundibuliforme, transversè emarginatum subbilabiatum. Annulus nectarifer crassus, lobatus, ovarium cingens. Capsula ad basin globosa, bilocellata, di-tetrasperma; superiora versus rostrato-attenuata, depressa, commissurâ planâ contiguâ. Dissepimentum membranaceum, in centro cohærens, a valvis solubile. Retinacula nulla; quorum loco annulus cartilagineus basin seminum cingens, qui ex ambitu funiculi umbilicalis oritur. Semina globosa, basi callosâ perforata, funiculo umbilicali per foramen intrante. Cavum interius, a parte hili, convexum, post solutam partem callosam et ferè osseam, retinaculi vices gerentem, semen extrinsecùs marginatum. Embryo . . . . . .—Inflorescentia: Flores axillares pedunculati, solitarii vel in racemum dispositi.—Plantæ scandentes. Corollæ speciosæ, luteæ vel cœruleæ, fauce plerumque saturatiore.

a. Calycis limbus truncatus.

1. *Thunbergia grandiflora* Roxb.: scandens, foliis cordatis angulatis acuminatis hispidis, calycis limbo truncato integerrimo.—*Thunbergia grandiflora* Spreng. S. V. II. p. 828. Link En. H. Reg. Berol. II. p. 132. Bot. Reg. t. 493. Wall. Catal. n. 768 a. fol. 83 e, f, k.[*] Wight Herb. propr. n. 5. *Thunbergia* et *Flemingia grandiflora* et *Flemingia racemosa* Herb. Madr. Wall. Cat. n. 766 c.

β *racemosa:* racemo terminali.

**malvifolia:* foliis cordato-orbiculatis grossè angulato-lobatis, apice minùs producto, floribus majoribus racemosis.

Thunbergia malvifolia Herb. Hamilt. Wall. Cat. fol. 83. n. 768 h.

***cuspidata:* foliis in acumen triangulare integerrimum productis basi angulatis, minùs hirsutis, scaberrimis, floribus minoribus. *Thunbergia grandiflora* Wall. in schedis n. 2518, nullâ additâ literâ, ex H. b. Calc.—2518 h. idem, (qui numerus, *Thunbergiæ malvifoliæ* Hamilt. respondens, a litera e fol. 83 progrediendo, in schedulis 2518 d. exprimitur). An *Th. malvifolia* Hort. Calc.? Wall. in lit.

γ *palmifolia:* foliis palmato-quinquelobis, laciniis acutissimis, floribus magnis solitariis axillaribus.—*Thunbergia grandiflora* Hamilt. Hb. Wall. Cat. fol. 83. n. 768 g. (in schedis 2518 c).

Patria Madras et Tranquebaria. In Sillet a. 1830 legit Gomez. In montibus Hindustaniæ a. 1821 (Wallich).—Hb. Madr. Hb. Wight.—Var. β e Katchulpur et Gualpara, Hamilt.: e Kuvarikot, id.—β** crescit in H. b. Calc.—Var. γ in Dongtola, Hamilt.

Tota planta scabra. Flos vix $1\frac{1}{2}$ poll. altus, limbo 3 poll. lato, cœruleus.

b. Calycis limbus pluridentatus.

2. *Thunbergia lævis* Wall.: scandens, foliis hastato-scutatis subangulatis obtusis glabris, calyce 12-dentato.—*Thunbergia lævis* Wall. Wight Herb. propr. n. 7.

In montibus provinciæ Dindygul, altit. ped. 1000. Wight.

Folia glabra. Corolla $\frac{1}{2}$—$\frac{3}{4}$ pollicis longa, lutea (?).

3. *Thunbergia fragrans* Roxb.: scandens, foliis oblongis acutis cordatis basi angulato-subhastatis pubescenti-scabris, calyce 12-fido.—*Thunbergia fragrans* Roxb. Pl. Corom. I. p. 47. t. 67. Willd. Sp. Pl. III. 1. p. 388. Pers. Synops. II. p. 179. n. 3. Spr. S. V. II. p. 828. n. 2. Link En. H. Ber. II. p. 132. Wall. Cat. n. 767. Wight Hb. propr. n. 4.

α. foliis latioribus, basi utrinque acutè bidentatis vel etiam hastatis. *Thunbergia fragrans* Wall. Catal. fol. 83. n. 767 e. ex Herb. Madr. (2519 a, in schedula); 767 g. Herb. Hamilt. ex Hort. b. Calc.; 767 h (an k?) maximam partem; 267 k. ex H. b. Calc. (ad partem).

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[*] In schedis 2518 a, d, e, f, g [c. errore], h [d. errore].

β. foliis angustioribus obsoletè repandis subhastatis. Wall. Cat. n. 767 a (2519 a, in schedis); 767 k. ex H. b. Calc. quoad partem.

γ. foliis cordato-lanceolatis oblongisve subintegerrimis. *Thunbergia fragrans* Wall. Cat. n. 767 et fol. 83. n. 767 c (in schedis, nec in Catal.) Ex H. b. Calc. in Hb. Hamilt.

δ *vestita:* foliis ut in var. α vel subintegerrimis cauleque densè villoso-sericeis velutino-mollibus. *Thunbergia fragrans* Wall. Cat. fol. 83. n. 767 k (?), et H. b. Calc., ex parte.

Habitat in fruticetis ad fluviorum ripas prope Samulcotta (Roxb.). Ad ripas fluviorum in nemorosis provinciæ *Circars*, Tanjore, Madure, Madras, etc. frequens (Wight).—Var. α in H. b. Calc. In Travancore a. 1817 (Hb. Madr.).—β in Hindustania. Wall. l. c. n. 767 a.

Tota scabra. Corolla pollicaris, pallidè lutea, fundo purpureo. Capsula disperma.

4. *Thunbergia alata* Hook.; volubilis, villoso-sericea, foliis cordato-sagittatis acutis alatè petiolatis, calyce 12-fido, bracteolis repandis.—*Thunbergia alata* Hook. Exot. Fl. t. 177. Spr. Cur. Post. ad S. Veg. p. 237. N. v. E. et Sinning Zierpse. t. 96. Wall. Cat. n. 7141.

Patria Africa orientalis 5°—6° latit. austr. (Hooker.) Ex H. b. Calc.

Thunbergiæ genuini generis esse videtur. Subherbacea. Corolla 1½ poll. longa, tubo curvo, limbo campanulato, lutea, fundo purpureo. Capsula hirta, rostro longo angusto tetragono.

5. *Thunbergia Roxburghia:* scandens, hirsuta, foliis cordato-hastatis basi angulatis, calyce ad medium 12—15-fido.—*Thunbergia fragrans* Wall. Cat. fol. 83. n. 761 *f.* (in sched. 2519 f).—*Roxburghia rostrata* Herb. Russel. l. c.

Crescit in India orientali. Herb. Russell.

Similis, quoad hirsutiem et foliorum formam, *Thunbergiæ tomentosæ*. Capsula glabra, rostro crasso pyramidali obtuso.

6. *Thunbergia tomentosa* Wall.: scandens, hirsuta, foliis cordato-triangularive-hastatis acutis, calyce multiseto.

Variat: α. foliis profundè cordato-hastatis. *Thunbergia tomentosa* Wall. Wight Hb. propr. n. 8.

β. foliis triangulari-hastatis, basi subtruncatis, scutiformibus, sæpè crenatis. *Thunbergia fragrans* Wall. Cat. fol. 83. n. 767 i, k (ad partem).

γ. foliis ovatis integerrimis crenatisve. *Thunbergia fragrans* Wall. Cat. l. c.

Var. α e Nilghiry (Wight). β, γ ex Herb. Roxburghiano (Wall.) et ex H. b. Calc.

Corollæ (purpureæ?) tubus longus, limbus latus, diametro poll. 1¼—1½. Antheræ glabræ, nec, ut *Thunbergiæ alatæ*, basin versus longè ciliato-barbatæ. Capsula pollicem longa, basi depresso-globosa, densè pubescenti-tomentosa, rostro conico longo.

7. *Thunbergia angulata* Hook.: scandens, pubescenti-scabra, foliis cordato-sagittatis acuminatis longè petiolatis, calyce 12-partito brevi, laciniis linearibus.—*Thunbergia angulata* Hook. Exot. Fl. t. 166. Spr. Cur. Poster. in S. V. p. 237. Wall. Cat. n. 770.

Patria Madagascar. Culta in H. b. Calc., introd. a cl. Telfair.

Corolla pollicaris, lutea, fauce violaceâ, tubo brevissimo. Capsula globosa, cum rostro circiter ¾ pollicis longa.

Adnot. An hæc cum *Thunbergia tomentosa* (et *alata*?) distincti generis?

8. *Thunbergia angustifolia* Ham.: scandens, foliis cordato-lanceolatis sinuolatis antherisque glabris, calyce 12-fido.—*Thunbergia angustifolia* Herb. Hamilt. *Thunbergia fragrans* Wall. Cat. fol. 83 n. 767 h (in schedis 2519 d).

E Koroyivari. Vidi exempl. Hb. Hamilt.

Corolla (lutea?) pollicaris, tubo angusto semipollicari, fauce dilatatâ, limbi laciniis 5 obovatis. Capsula basi depresso-globosa 4-sperma, rostro conico obtuso duplò longiore.

Adnot. Generis proprii typus esse videtur; ex uno autem flore, quem dissecui, rem ad liquidum perducere nequivi.—Differentia a *Thunbergia,* cui convenit calyce, bracteis, fructuque, consisteret in corollæ tubo longiore, antherisque per paria connatis glabris, locellis subconfluentibus margine undulatis, quæ forma est fermè foliorum in antheris repetita.

II. MEYENIA[*].

Thunbergiæ spec. Wall. Wight, Herb. Madr.

Calyx parvus quinquelobus, bracteolis duabus magnis inclusus. Corolla infundibuliformis, fauce sensim ampliatâ, tubo brevissimo, intùs annulo piloso clauso; limbo subæquali. Stamina quatuor, didynama; antheræ apice barbatæ, bilocellatæ: superiorum locellis inæqualibus, altero magìs supero divergente, latere tomentoso; inferiorum parallelis subæqualibus, basi muticis. Stigma membranaceo-dilatatum, bilabiatum, labiis bilobis. Capsula e basi tumidula conico-attenuata, ad basin bilocularis tetrasperma, dissepimento persistente valvis adnato, ad axin lignoso dissolubili. Semina (immatura) strophiolâ cupuliformi solubili spongiosâ suffulta.—Inflorescentia: Flores axillares, pedunculati.—Caulis scandens. Folia opposita, integerrima.

Meyenia Hawtayneana.—*Thunbergia Hawtayneana* Wall. Tent. Fl. Nep. I. p. 49. Pl. As. Rar. II. p. 52. t. 164. Catal. n. 769 a, b. fol. 83 c (in schedis n. 2516, a, b, c). *Thunbergia cordifolia* Herb. Madr. Wall. Cat. fol. 83. n. 769 c. *Thunbergia erecta* Herb. Madrasp. (Wall. in Pl. As. Rar.) *Thunbergia cœrulea* Herb. Wight. (Wall. l. c.).

In umbrosis jugi Nilghiry (Wight). Ex H. b. Calc. (Wall.) E. Nilghiry (Hawtayne). Herb. Madr.—Planta scandens, foliis subsessilibus cordatis acutis. Corolla pollice paullò longior (cœrulea?). Capsula pollicaris. Floret in Horto botanico Calcuttensi tempore frigido.

III. HEXACENTRIS[†].

Calyx pateriformis, parvus, limbo inæqualiter dentato repandovè. Bracteæ duæ, altero latere connatæ, altero dehiscentes, valvatæ calycem tegentes. Corolla infundibuliformi-campanulata, tubo brevissimo, limbo subæquali obliquè quinquefido. Stamina tubi faucibus, annulo barbato limbatis, inserta. Antheræ erectæ, bilocellatæ, glabræ, locellis parallelis contiguis, superiorum staminum uno locello basi longissimè calcarato, altero brevi-mucronulato, inferiorum utroque locello longissimè calcarato, calcaribus flexuosis. Stigma bifurcum, laciniis truncatis complicato-canaliculatis basi angustioribus. Capsula bilocularis, tetrasperma, rostrata. Semina cristata. Dissepimentum a valvis solubile, integrum, ad axin bipartibile.—Inflorescentia: Racemi axillares et terminales multiflori; bracteis communibus parvis; floribus oppositis solitariis aut fasciculatis; bracteolis caducis. Corolla purpurea.

1. *Hexacentris coccinea*: foliis cordatis ovatis repando-dentatis, bracteolis ovatis.—*Thunbergia coccinea* Hook. Exot. Fl. t. 195. Don Fl. Nep. p. 120. Spr. Cur. Post. in S. Veg. p. 237. Wall. Cat. n. 766 a, b. et fol. 83 c, d (in schedis n. 2517 a—e). *Flemingia coccinea* Hamilt. MSS.

Crescit in Nepalia (Hamilt., Wallich 1821, Don). In Pundua (Matthew Robert Smith.). Ex H. b. Calc. Wall. Cat. p. 83. n. 766 d; e Nepalia illata.

Caulis tortus, nodosus, cum foliis glaber. Corolla coccinea bracteolis paullò longior; tubus vix lineâ longior. Stamina cœrulea; calcaria alba. Capsula rigida, pollice longior, glabra, striato-rimulosa.

2. *Hexacentris dentata:* foliis ovatis basi truncatis grossè dentatis, bracteolis oblongis.—*Thunbergia quinquenervis* Hamilt. Herb. *Thunbergia coccinea* Wall. Cat. fol. 83. n. 766 c.

E Siupur (Hamilton).

Differt a præcedente foliis (7—8 poll. longis, 3 p. latis—duplò majoribus quàm illius) etc.; tum et rostro capsulæ hac triplò longiore, quod illi vix duplò longiùs capsulâ.

3. *Hexacentris acuminata:* foliis ovato-oblongis acuminatis remotè dentatis. Wall. Cat. n. 7140.

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[*] Franciscus Julius Ferdinandus Meyen, Med. Dr. Berolinensis, operibus pluribus doctis, rem herbariam illustrantibus, imprimis libro de Phytotomia, a. 1830 edito, de botanice optimè promeritus, jam ex circumnavigatione terræ redux, hoc genere ejus nomine appellato honoretur.

[†] Etym. a ἑξ et *κεντϱον calcar,* ob calcaria antherarum simul sumpta sena in quovis flore.

In montibus Sillet a. 1829, legit Guil. Gomez.

Folia (cum petiolo circ. pollicari 5—8 poll. longa, 1¼—2 p. lata) valdè reticulata et distinctè quinquenervia, longissimè acuminata.

Tribus II. NELSONIEÆ.

IV. ELYTRARIA, Vahl.

Calyx quinquepartitus, laciniâ superâ latiore, binis inferioribus basi paullò altiùs connexis. Corolla bilabiata vel ringens, labio inferiore trifido (laciniis bifidis). Stamina duo fertilia, duo sterilia, inclusa. Antherarum locelli paralleli. Capsulæ loculi a basi pleiospermi (octospermi). Retinacula nulla.—Inflorescentia: spicæ radicales. Scapi in spicam squamati. Bracteæ oppositæ, unifloræ; bracteolæ duæ angustiores. Flores parvi.—Herbæ acaules.

1. *Elytraria crenata* Vahl: acaulis, foliis obovato-oblongis crenatis subtùs ad costas villosis.—*Elytraria crenata* Vahl En. I. p. 106. R. et Sch. S. V. I. p. 139. Mant. I. p. 126. Willd. Sp. Pl. ed. 2. I. p. 420. Wall. Cat. n. 2420. Wight Hb. propr. n. 43, 44. *Elytraria indica* Pers. Syn. I. p. 23. n. 1. *Justicia acaulis* Linn. Suppl. p. 84. Vahl Symb. II. p. 3. Lam. Enc. Méth. I. p. 632. n. 36. Roxb. Pl. Corom. t. 127. Fl. Ind. ed. Car. et Wall. I. p. 139. n. 9. Herb. Russel., Madr., Röttl., Wight., Heyn. (Wall. Cat. n. 2420 a—e). *Plantaginis facie Indiæ orientalis Nella Carumbee Malabarorum* Pluk. Amalth. p. 175. Alm. t. 438. n. 1.

Crescit in Indiæ orientalis pascuis, maxima sub umbra arborum, floret tempore pluvio frigidoque (Roxburgh). Frequens in collibus montium *Circars*, Madras, Gingee, Madura cet. (Wight). Squamæ scapi lanceolatæ ciliatæ. Corolla alba, vix 2 lin. longa.

V. NELSONIA, *R. Br.*

Calyx quadripartitus, inæqualis, laciniâ superâ majore, inferâ bifidâ. Corolla bilabiata, vel subbilabiata, labio inferiore trifido. Stamina duo; sterilia nulla. Antheræ duæ, inclusæ. Connectivum apice obliquè lanceolatum, locello altero super altero posito, inferiore mutico æquali. Stigma bifidum, laciniis ovatis. Capsulæ loculi octospermi a basi seminiferi. Retinacula nulla.—Inflorescentia: Spica terminalis. Flores solitarii, bracteâ magnâ tecti; bracteis lateralibus parvis aut nullis.

1. *Nelsonia tomentosa* Dietr.: herbacea, prostrata erectiusculave, villosa, foliis ellipticis obtusis, inferioribus petiolatis, superioribus subsessilibus minoribus, spicis ovatis, bracteis elliptico-subrotundis mucronulatis.—*Nelsonia tomentosa* Willd. Sp. Pl. ed. 2. I. p. 419. *Justicia tomentosa* Roxb. Fl. Ind. ed. Car. et Wall. I. p. 132. n. 25. Wall. Cat. n. 2370, a, b. Wight Hb. *Justicia vestita* R. et Sch. S. Veg. Mant. I. p. 145. *Justicia bengalensis* Spr. S. V. I. p. 82. n. 78. *Justicia pentasticha* Hamilt. Hb. Wall. Cat. n. 2370 c. *Ruellia ciliata* Herb. Madr. Wall. Cat. n. 2392 b. (ad partem). *Justicia tomentosa* Roxb. et *J. lamiifolia* Kön. in Herb. Madr. Wall. Cat. n. 2370 e.

β. caule quasi sarmentoso. *Justicia tomentosa* Wall. Cat. n. 2370 c, d, e, f. *Justicia lamiifolia* Roxb. Fl. Ind. ed. Car. et Wall. I. p. 136. n. 31. R. et Sch. S. V. Mant. I. p. 137. *Nelsonia lamiifolia* Spr. S. V. I. p. 42. n. 7. Willd. Sp. Pl. ed. 2. I. p. 420. *Justicia ajugoides* Herb. Hamilt. et Wall. Cat. n. 2370 c. (ex parte).

γ *ajugoides*: caule flagellari, foliis radicalibus maximis superstitibus stipato. *Justicia ajugoides* Herb. Hamilt., Wall. Cat. n. 2370 c. (ex parte).

Crescit in pascuis humidis pinguibus; floret tempore pluvio. Roxb.—In nemorosis Paulgaut provinciæ Coimbetore. Wight. Ad ripas Attran fluvii (Wallich). In montibus Courtallum (Herb. Madr.); Bankok, in regno Siam (Hb. Madr.). Dimlae, die 16 Mart. 1809; Gorakhpur, d. 7 Aprilis a. 1814, Hamilt.—Var. β. in Chappedong, d. 22 Febr. 1827; ad Kagun in ripis Saluen fluvii Martabaniæ 1827; in Sillet, Fr. de Silva.—Var. γ. Asormi d. 22 Martii a. 1811 legit cl. Hamilton.

Ajugam pyramidalem refert.—Corolla pallidè purpurea. Capsula glanduloso-scabra, immatura per dissepimenti laminas secedens, directione communi dehiscentiæ contraria.

Adnot. *Justicia lamiifolia* Roxb. a *Justicia tomentosa* seu *Nelsonia tomentosa* nostra vix varietatis gradu differt.

VI. ADENOSMA, *R. Br.*

Calyx quinquepartitus, æqualis vel superiore lacinia majore. Corolla ringens. Stamina quatuor didynama, antheris bilocellatis, locellis parallelis. Capsula angusta, rostrata, polysperma. Dissepimenta adnata. Retinacula nulla.—Inflorescentia: flores in axillis foliorum superiorum minorum sessiles, singuli vel terni, oppositi, spicam foliosam formantes.

Adnot. Differt hoc genus ab EBERMAIERA corolla ringente.

1. *Adenosma biplicata*: herbacea, caule erecto ramosissimo foliisque oblongis subsessilibus denticulatis hirsutis, floribus axillaribus sessilibus solitariis, palato biplicato, calyce quinquepartito.—Wall. Cat. n. 7146.

In montibus juxta Prome, Burmanorum, 1826, cum flore fructuque.

Similis *Hygrophilæ ringenti* R. Br. Corolla ferè personata, violacea.

2. *Adenosma triflora*: caule adscendente foliisque ovatis crenato-serratis glanduloso-pubescentibus, floribus axillaribus subspicatis ternis, calyce æquali, corollæ laciniis omnibus retusis.—“*Ruellia triflora* H. b. Calc.” Wall. Cat. n. 7147.

Ex Hort. b. Calcuttensi.—Caulis pedalis. Corolla 5 lin. longa, purpurea (?), tubo brevi, fauce amplâ.

3. *Adenosma verticillata*: caule adscendente foliisque ovali-oblongis serrulato-crenatis hirsutis, floribus verticillatis, calycis æqualis laciniis lineari-spathulatis obtusis.—*Ruellia verticillata* Wall. Cat. n. 2409. *Blepharis verticillata* Herb. Heyn., Wall. l. c.

Patria est India orientalis; locus natalis non accuratiùs est indicatus.

Caulis spithamæus. Corolla 4 lineas longa, pubescens, purpurea.

4. *Adenosma Thymus*: caule repente ramosissimo, foliis bracteisque lanceolatis integerrimis densè lineolatis glabris, floribus axillaribus sessilibus oppositis.—*Ruellia cernua* Heyne Herb. Wall. Cat. n. 2380 b. (ex parte).

Vidi exemplum Herbarii Heyneani.—Proxima hæc *Adenosmæ uliginosæ*. Caulis (in nostro expl.) vix digitalis. Corolla 4 lin. longa, pubescens, purpurascens, tubo brevi, fauce amplâ.

5. *Adenosma uliginosa*, R. Br.: caule repente geniculato ramosissimo supernè piloso, foliis ovalibus crenatis subsessilibus pubescenti-scabris, floribus axillaribus oppositis solitariis in spicam terminalem tetragonam dispositis.—*Ruellia uliginosa* Linn. Suppl. p. 290. Willd. Sp. Pl. III. 1. p. 371. Roth. Nov. Pl. Sp. p. 306. observ. Wall. Cat. n. 2378 a, et c. maximam partem. *Adenosma uliginosa* Rob. Br. Prodr. Fl. Nov. Holl. ed. N. ab E. I. p. 398. Spr. S. V. II. p. 828. n. 1.

Habitat in Tranquebar et prope Allamparuam in agris oryzaceis vulgatissima. ⊙ Linn. l. c. Vidi exempla Herb. Madr.

Caules plures ex radice, trichotomè divisi. Corolla 3½ lin. longa, pallida, glabra, fauce inflatâ.

Adnot. De hac planta egregiè, l. c., scripsit Rothius, neglecto tamen charactere generico, maximèque ea spectans, quibus faciliùs a *Ruellia polysperma* seu *Hemiadelphi polysperma* nostra distingui possit; quæ quidem distinctio, solo fructu comparato, evidentissima est.

VII. EBERMAIERA.

Calyx quinquepartitus, laciniâ superâ latiore, mediis angustioribus. Corolla infundibuliformis, quinquefida, subregularis, laciniis brevibus. Stamina quatuor didynama, inclusa, inferiora sæpè sterilia; antherarum locelli in connectivo latè triangulari obliquè transversales, divergentes. Stigma compressum bilamellatum, tricuspidatum, scil. lamellâ superiore truncatâ vel bifidâ ex utroque latere ad basin lamellæ inferioris prominente. Capsula bilocularis, bivalvis, a dorso depressa, polysperma. Retinacula seminum nulla.—Inflorescentia: capitula racemoso-spiciformia, terminalia. Flores alterni, in bractearum axillis solitarii bibracteolati; pedicellis basi cum bractea connatis.

Adnot. Ab ADENOSMA genere differt corollâ ferè regulari et antherarum locellis transversim divergentibus.—Capsula est NELSONIÆ; flos ferè RUELLIÆ.

Ebermaierus physicus circuli Dusseldorpiensis, et medicus practicus, librum de plantis medicinalibus (Handbuch der medicinisch-pharmaceutischen Botanik) cum Friderico Neesio ab Esenbeck, Professore Bonnensi, junctis studiis et opera edidit præstantissimum.

1. *Ebermaiera humilis:* floribus capitatis, foliis petiolatis oblongo-lanceolatis glabris. Wall. Cat. n. 7148.

Legit in montibus Promæ a. 1826.—Herba annua, 1½—4-pollicaris, erecta. Corolla calyce longior, 5 lin. longa, pubescens, purpurea (?). Florum capitula subglobosa, magnitudine nucis moschatæ.

2. *Ebermaiera thyrsoidea:* floribus racemosis, foliis petiolatis ovato-oblongis villosis, bracteis lanceolato-spathulatis calycisque laciniis linearibus longissimè pilosis glandulosisque. *Justicia thyrsoidea* Wall. Cat. n. 7149.

Crescit in Moalmyne: lecta a. 1827.—Herbacea, circiter digitalis, adscendens. Corolla longitudine calycis, pubescens, venosa, (carnea?). Racemus longitudine reliqui caulis, digiti minimi crassitie.

3. *Ebermaiera axillaris:* racemis terminalibus ternis nutantibus hirsutissimis, bracteis ovatis, foliis oblongis basi cuneatis suprà punctulato-asperis subtùs pubescentibus.—*Ruellia? axillaris* Wall. Cat. n. 2414.

E Penang, a. 1822. Wallich.

Caulis crassus furcatim divisus, ramis apice 2—4-phyllis inter folia racemiferis. Folia 8—10 poll. longa, 2½—3 poll. lata. Racemi subcylindrici, 2—3 poll. longi. Corolla vix semipollice longior, densè pubescens, (ferrugineo-reticulata?).

Adnot. Proxima huic est Brasiliensis planta:

Ebermaiera Mandioccana: spicis axillaribus, terminalique composita glandulosis, bracteis spathulatis, foliis ovalibus utrinquè acutis glabris, caule tereti-compresso pulverulento-scabro.

In Mandiocca ad margines sylvarum mense Augusti a. 1822, cum floribus fructuque maturo legit Beyrichius. ♄.

Frutex 3—4-pedalis. Folia opposita, 4—5 poll. longa, 1½ poll. lata, in petiolum semipollicarem desinentia. Spicæ axillares breves densæ, pleræque ad rami apicem confertæ in spicam terminalem 4—6 pollices longam, basi compositam foliosam. Corollæ 3 lin. longæ, pallidæ, maculâ faucium inferâ violaceâ. Capsula 3 lin. longa, oblonga.

VIII. ERYTHRACANTHUS[*].

Ruelliæ spec. Roxb.

Calyx profundè quinquepartitus, laciniis subæqualibus ovatis acuminatis. Corolla infundibuliformis, limbo æquali quinquefido obtuso. Stamina quatuor didynama; antheræ bilocellatæ, locellis in connectivo securiformi obliquè divergentibus muticis. Stigma bilamellatum, lamellis parallelis angustis, superiore paullò breviore truncatâ. Ovarium basi annulo constrictum, supernè biloculare, locellis multiovulatis, ovulis densè seriatis horizontaliter patentibus obtusis. Retinacula nulla (?).—Inflorescentia: racemulus terminalis (compositus); flores et bracteæ subalternæ. Bracteæ et bracteolæ exiguæ, setaceæ, subæquales, calyce breviores.—Frutices. Folia subtùs rubicunda. Flores mediocres.

Erythracanthus racemosus.—*Ruellia racemosa* Roxb. Wall. Cat. n. 2336 a, b.—Fruticulus caule foliisque oblongo-lanceolatis pubescenti-scabris.

In Penang a. 1822 lectus est.

Folia opposita, cum petiolo ¾ pollicis 4½—5 pollices longa, 1 poll. lata. Pedunculus terminalis, plerumque solitarius, 4-pollicaris; ipsa spica pollice vix longior. Flores cum bracteolis suis spicatim alterni (egregio exemplo). Corollæ 5 lineas longæ.

Tribus III. ECHMATACANTHI.

Subtribus I. HYGROPHILEÆ.

IX. HEMIADELPHIS[*].

Calyx quinquefidus, laciniis æqualibus. Corolla ringens clausa, labio superiore bidentato, inferiore trilobo. Stamina duo. Filamenta basi dilatata, supra medium dente setaceo (rudimento filamenti abortivi) instructa. Antheræ bilocellatæ, locellis parallelis muticis, demùm contortis. Capsula lanceolata, compressa, polysperma. Semina retinaculis subtensa.—Inflorescentia: spica, bracteis imbricata.

Hemiadelphis polysperma.—*Justicia polysperma* Roxb. Fl. Ind. ed. Car. et Wall. I. p. 120. n. 8. R. et Sch. S. V. Mant. I. p. 132. Willd. Sp. Pl. ed. 2. I. p. 375. n. 28. Spr. S. V. I. p. 79. n. 23. Wall. Cat. n. 2483 a—g. *Ruellia polysperma* Roth. Nov. Pl. Sp. p. 305. n. 6. *Adenosma polysperma* Spr. S. V. II. p. 829. *Ruellia uliginosa* Wall. Cat. n. 2378 *b, c, a* ex parte.

In Bengalia locis incultis inter gramina apparet, tempore frigido (Roxb.). Lecta Nawabguny, Gualparæ, d. 10 Dec. 1813, et Patnæ d. 20 Mart. 1812 a cl. Hamiltonio; in Sillet a Fr. DeSilva, in Oude a. 1825. Promæ alibique secus ripam Irawaddi fluvii a. 1826. Culta etiam adest ex H. b. Calc.

Herba repens, palmaris et paullò longior, ramosissima, foliis elliptico-oblongis glabris, spicis in ramis ramulisque terminalibus brevibus, bracteis communibus obovatis hirtis. Corolla 2—3 lin. longa, pubescens, purpurascens (?).

Adnot. Similitudo *Adenosmæ uliginosæ* ad universum adspectum potius, quàm ad veram plantæ structuram, interpretanda est.

X. HYGROPHILA, *R. Br.*

Calyx tubulosus, ad medium circiter quinquefidus. Corolla ringens, labio inferiore in medio convexo ruguloso, trifido. Stamina non exserta. Antheræ bilocellatæ, locellis parallelis basi divergenti-sagittatis muticis vel submucronatis, violaceis. Stigma simplex, subulatum, incurvum. Capsula angusta, teretiuscula, sexstriata, ad basin usque bilocularis et seminifera, polysperma. Semina parva, orbiculata, compressa, læviuscula. Retinacula brevia, obtusa.—Inflorescentia: flores axillares cymoso-glomerati, verticillos dimidiatos integrosve construentes. Calycis dentes hirti vel barbati. Corollæ purpureæ vel lutescentes.—Herbæ, in humidis uliginosis et ad ripas fluminum degentes.

a. Verticillis florum completis.

1. *Hygrophila quadrivalvis:* herbacea (?), caule erecto, foliis oblongis repando-subdentatis densè lineolatis suprà punctulatis, floribus verticillatis, verticillis completis, calycis laciniis apice labioque corollæ inferiore barbatis.—*Ruellia quadrivalvis* Hamilt. Herb. Wall. Cat. n. 2374 a, b, c, d. *Ruellia salicifolia* Herb. Madr. (Wall. Cat. n. 2374 b.) *Ruellia barbata* Vahl Symb. III. p. 83. Willd. Sp. Pl. III. 1. p. 373?

β. foliis caulinis omnibus lanceolatis.—*Ruellia salicifolia* Roxb. Herb. Wall. Cat. n. 2373 e.

In Dhomdhoa primus legit cl. Hamilton; in Tavoy Guil. Gomez a. 1827.

Folia 4—7 poll. longa, poll. 1½—1¾ lata. Corolla circiter 9 lineas longa, purpurea.—Seminum retinacula uncinata, alba.

Adnot. Capsula non magìs atque in aliis hujus generis quadrivalvis, nec nisi suturâ dissepimentali et valvari æquè distinctis fingens ejusmodi dehiscentiam. Nomen itaque non optimè congruum.

2. *Hygrophila phlomoides:* herbacea, basi repens, caule quadrangulo foliisque oblongo-ellipticis subcrenatis sessilibus hirsutis, floribus verticillatis, bracteis propriis calycibusque hirsutissimis. *Ruellia phlomoides* Wall. Cat. n. 2376 a, b. *Hygrophila undulata* Blume Bydr. p. 803. (excl. synon. Vahl.)

In Sillet legit Guil. Gomez.

Herba specie *Prunellæ vulgaris* vel *Marrubii* cujusdam. Caulis semipedalis, crassus, ramosus, foliis 1½-pollicaribus, 8 lin. latis. Corolla ½-pollicaris, purpurea.

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[*] Nomen ab *ερυθρος ruber*, et *ακανθος*, quia tota folia subtùs rubent.

[*] Ab *ἡμισυς dimidius*, et *αδελφος*, ob stamina sterilia cum fertilibus conjuncta.

b. Verticillis florum dimidiatis.

1. *Hygrophila obovata:* herbacea, caule erecto, foliis caulinis oblongis, ramorum obovatis, obtusis in petiolum attenuatis integerrimis, suprà, subtùsque ad costas hirsutulis, floribus dimidiato-verticillatis, calycis quinquefidi laciniis apice labioque corollæ inferiore barbatis.—*Ruellia obovata* H. b. Calc. Wall. Cat. n. 2375 a, b. Hornem. H. Hafn. Suppl. p. 144. n. 10.

Ex Horto b. Calc., exempla Herbb. Hamilt. et Wallich.—E Chittagong. Hornem. l. c.

Ab *Hygrophila quadrivalvi* nostra imprimis differt verticillis nonnisi dimidiatis, foliis minoribus, 2¼—2½ poll. longis, 7—8 lin. latis cet. Calyx atque corolla (lutea?) quales in illa.

Adnot. *Ruellia barbata* Vahlii ab utraque diversa esse videtur: labió corollæ superiore integro, et antheris basi biaristatis.

4. *Hygrophila dimidiata:* herbacea, caule erecto, foliis ovatis obtusis repando-subcrenatis densè lineolatis suprà punctulatis ad costas nervosque scabriusculis, floribus dimidiato-verticillatis, calycis quinquefidi laciniis apice labioque corollæ inferiore barbatis.—Wall. Catal. n. 7150.

In Promæ montibus a. 1826.

Simillima *Hygrophilæ quadrivalvi.* Differt foliis ovatis, 3 poll. (cum petiolo) longis, 1½ p. latis, verticillis dimidiatis, corollis duplò minoribus, 4—5 lin. longis, etc.

5. *Hygrophila radicans:* herbacea, caule procumbente repente foliisque oblongis utrinque acutis repando-subcrenatis lineolatis glabris, verticillis dimidiatis, calycis laciniis subulatis hirsutis.—*Ruellia radicans* Wall. Cat. n. 2410.

In Sillet legit F. D.

Ab *Hygrophila salicifolia* differt caule, foliis (brevioribus, 1½ poll. longis, 6—8 lin. latis etc.), capitulis angustioribus plerumque trifloris, floribus minoribus angustioribus, antheris basi muticis (quæ in illa basi brevissimè mucronatæ). *Menthæ arvensis*, angustiore folio, surculum haud malè refert hæc planta.

6. *Hygrophila salicifolia:* herbacea, caule erecto foliisque lanceolatis utrinquè acuminatis lineolatisque circa costas scabriusculis, verticillis dimidiatis, calycis laciniis subulatis hirsutis.—*Ruellia salicifolia* Vahl Symb. III. p. 87. Willd. Sp. Pl. III. 1. p. 374. Spr. S. V. II. p. 822. n. 26. Wall. Cat. n. 2373 a, b, c, d, f. *Ruellia longifolia* Herb. Madr. (Wall. Cat. n. 2373 b.) Roth Nov. Pl. Sp. p. 306. Spr. S. V. II. p. 825. n. 71.

Crescit in humidis et inundatis Indiæ orientalis. In Gualpara. In Sillet legit F. de Silva. ⊙.

Variat magnitudine, palmari-pedali; foliis brevioribus vel longioribus, quorum infima minora. Corolla circiter 3 lin. longa, pallida, antheris violaceis. Capsula semipollicaris, angusta, compresso-tetragona, acuta. Semina in quoque loculo 7—8.

Adnot. Plantam a cl. Rothio descriptam, Heyneanam, quamvis verba de calyce dicta repugnent, eandem tamen esse inclaruit ex plantis Heyneaneis earundem specierum, ad cl. Sehlmeyer, pharmaceutam Coloniensem ab Heyneo missis, inter quas hæc *H. salicifolia* nostra "*Ruelliæ longifoliæ*" nomine inscripta.

Subtribus II. RUELLIOIDEÆ.

XI. DYSCHORISTE[*].

Ruelliæ et *Justiciæ* spp., Linn., Burm., Heyn., Wall.

Calyx tubulosus, vix ad medium quinquefidus, æqualis. Corolla infundibuliformis, limbo obliquo quinquefido. Stamina quatuor didynama; antheræ bilocellatæ locellis parallelis æqualibus basi mucronatis. Capsula oblonga, parùm depressa, rigida, propè a basi tetrasperma, sursùm asperma. Dissepimentum adnatum. Semina ovata, obtusa, immarginata, pellicula crassa mucilaginosa involuta. —Inflorescentia: flores axillares, in ramulo brevissimo terminales solitarii sessiles, basi bracteolis duabus foliis consimilibus præditi. Fruticuli parvi depressi.

1. *Dyschoriste depressa:* caule repente foliisque obovato-orbiculatis obtusis retusisve cum mucrone integerrimis glabris, floribus erectis.—*Ruellia depressa* Herb. Madr. Wall. Cat. n. 2379. *Ruellia? setigera* Wight Herb. propr. n. 22.

β. caule laxiore pubescente, foliis minoribus, ex obovato spathulatis.—*Ruellia cernua* Hb. Heyn. Wall. Cat. n. 2380 b. ex parte, (alterum exemplum est *Adenosmæ Thymi*).

Crescit in provincia Tanjore: Wight. In Ceylona: Herb. Madr. —Var. β Herb. Heyneanum servat, loco natali non adscripto.

Suffrutex, palmaris et longior. Corolla purpurea, semipollicaris.

2. *Dyschoriste cernua:* caule procumbente diffuso scabro, foliis spathulatis integerrimis glaucis, floribus fructibusque reflexis.—*Ruellia cernua* Herb. Madr. Wall. Cat. n. 2380 a.

V. exemplum Hb. Madr., loco natali non adscripto.

Caulis illo præcedentis tenuior, trichotomo-ramosissimus. Corolla 4 lin. longa.

3. *Dyschoriste litoralis:* caule fruticuloso diffuso, foliis cuneiformibus retusis apicem versus dentatis glabris.—*Ruellia litoralis* Linn. Suppl. Pl. p. 289. Roth Nov. Pl. Pl. Sp. p. 300. n. 1. Spr. S. V. II. p. 821. n. 23. Wall. Cat. n. 2381 a, b. Wight Hb. propr. n. 20.—*Justicia madurensis* Burm. Fl. Ind. p. 9. t. 4. f. 3. Vahl Symb. II. p. 17. Willd. Sp. Pl. I. 1. p. 98. *Adhatoda madurensis frutescens, sampsanchi folio, caule argenteo* Petiv. Gazoph t. 2. f. 8.

Crescit in Madura. Petiv. Burm.—Frequens in aridis apricis et petrosis: Madras, Chingpur, Negapatam cet. Wight. l. c. Vidi etiam exempl. Hb. Madr. adscripto synonymo Burmanniano.

Fruticulus parvus ramosissimus. Corolla 6—8 lin. longa, purpurea.

Adnot. Antherarum mucrones, a Linneo observatos, non adesse in ista specie cl. Rothius contendit. Reverà tamen adsunt evidentissimi, neque oculos fugient, dum flores sanos, eorumque alabastra nondum explicata observare liceat.

XII. DIPTERACANTHUS[*].

Ruelliæ spp., Jacq., Roxb., Roth., Wall.

Calyx æqualis, profundè quinquefidus. Corolla infundibuliformis, limbo subæquali quinquefido. Stamina didynama, inclusa; antheræ lineari-sagittatæ, locellis parallelis æqualibus. Stigma bilamellatum, basi nodulosum. Capsula basi compressa asperma, apice parùm depressa, octo-dodecasperma. Dissepimentum in medio membranaceum denique maximam partem evanescens. Retinacula uncinata, præmorsa. Semina orbiculata, compressa, margine tumido discreto cincta.—Inflorescentia: flores axillares, solitarii aut fasciculati, sessiles aut brevi-pedunculati. Bracteæ propriæ duæ foliaceæ, petiolatæ, subjectæ calyci vel fasciculo.—Herbæ repentes, vel erectæ, molliusculæ. Formæ anomalæ: Capsula abortu tetra- vel di-sperma, ovulis tamen sterilibus adjectis semini.

1. *Dipteracanthus Sibua:* caulibus e rhizomate repenti brevibus, apice densè foliosis foliisque ellipticis obtusis integerrimisque hirsutis, floribus solitariis subsessilibus, bracteis oblongis calyce longioribus.—*Ruellia? Sibua* Herb. Hamilt. Wall. Cat. n. 2384 f.—*?Ruellia repens* Wall. Cat. l. c.

In Sukanaghur legit cl. Hamiltonius.

Caules pollicares-spithamæi, hirsutissimi. Corolla 1½-pollicaris, purpurea (?).

2. *Dipteracanthus ciliatus:* caule (herbaceo?) erecto scabrido-pubescente, foliis ovatis utrinque acutis repando-crenatis hirtis hirsutisve, floribus subterminali-axillaribus sessilibus, capitatisve pedunculatis, bracteis propriis spathulatis calyce brevioribus.—*Ruellia ciliata* Hornem. H. Havn. p. 585. Spr. S. V. II. p. 820. n. 4. *Ruellia* Wall. Cat. n. 7151 a, b.

In montibus prope Prome a. 1826. Guil. Gomez. In H. b. Calcutt., e regno Birmanico introducta.

Folia cum petiolo 5 poll. longa, 2¼ p. lata. Corolla ferè bipollicaris, cœrulea.

3. *Dipteracanthus prostratus:* caule procumbente foliisque ovatis obtusis pubescenti-hirtis canescentibus, floribus axillaribus solitariis

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[*] A δυς *difficilè*, et χωριζω *separo*, ob valvulas capsulæ tenaciùs cohærentes.

[*] A διπτερος *bialatus*, et ακανθος *acanthus*, propter pedunculos diphyllos.

pedicellatis, bracteis ovalibus petiolatis.—*Ruellia prostrata* Poir. Enc. Méth. Suppl. Spr. S. V. II. p. 822. n. 25. *Ruellia repens* Herb. Madr. Wall. Cat. n. 2384 a. Herb. Wight(?). Wall. Cat. n. 2384 d. et Hb. Heyn. c. *Ruellia Wightiana* Wall. Cat. n. 2397. Wight Herb. propr. n. 21.

Crescit in pascuis et sepibus ad Negapatam. Wight l. c.

Folia (Majoranæ) $\frac{1}{4}$—1 poll. longa, minora ex ovato-subrotunda. Corolla pollicaris.

4. *Dipteracanthus dejectus:* caule procumbente, foliis ovato-ellipticis petiolatis utrinque acutis hirsutis, floribus axillaribus sessilibus subsolitariis, bracteis spathulatis calyce longioribus.—*Ruellia repens* Wight Herb. propr. n. 32.

β. floribus solitariis, geminis, rariùsve ternis brevipedicellatis.—*Ruellia ringens* Hb. Roxb. Wall. Cat. n. 2403. Hb. Roxb. Wall. Cat. n. 2384 b. *Ruellia Methia* Herb. Hamilt. Wall. Cat. n. 2384 e.

In provincia Tanjore, (Wight l. c.). In Munghir d. 11 Maii a. 1811. (Hamilton). Var. β v. in Hb. Roxb.

Affinis *Dipteracantho prostrato.* Foliorum, longè petiolatorum, lamina $2\frac{3}{4}$—3 poll. longa, $1\frac{1}{4}$—$1\frac{1}{2}$ p. lata. Corolla circiter $\frac{3}{4}$ pollicis longa, incurva, purpurea.

Adnot. In Herb. Roxburghiano hujus speciei exemplis ramulus adjectus est *Asystasiæ Coromandelianæ.*

5. *Dipteracanthus lanceolatus:* caule herbaceo repente foliisque (superioribus) lanceolatis petiolatis suprà hirtis, floribus axillaribus solitariis brevissimè pedicellatis, bracteis ovalibus petiolatis, capsulâ pubescente subtetraspermâ.—*Dipteracanthus lanceolatus* N. ab E. in Reliqu. Hænk. ined. *Ruellia repens* Linn. Mant. p. 89. Burm. Fl. Ind. p. 135. (excl. icone.) Blume Bydr. p. 294?

In Luzona insula legit Hænke.—In Java insula? Blume. A præcedente foliis multò angustioribus, bracteis ovalibus et capsulâ oligospermâ pubescente evidenter differt. Folia $1\frac{1}{2}$—2 pollices longa, 4—6 lineas lata. Capsula clavata, 4 lin. longa, subtilissimè recumbenti-pubescens, a basi ad medium compressa, hinc ad basin cujusque locelli semine singulo binisve perfectis ovulisque 3—5 abortivis fœta, (igitur ad normam generis 12-ovulata.)

Ruelliam repentem Linn. et ipsius Burmanni ad hanc speciem citavi, misso tamen nomine, ut debui in re tam incerta. Qui Burmannianæ iconi soli fidem tribuunt, longè diversissimam sanè illam esse a nostro *Dipteracantho* judicent, necesse est. Burmannus autem, si hanc plantam, quam pictor in Tab. XLI. pinxit, in textu descripsit, cur, quæso, bracteas "petiolatas" eidem tribuit, quæ quidem non minus ac ipsa folia "sessilia" exhibentur in icone? Porrò, si pictorem forsàn in hoc peccasse aliquis objiciat altera statim graviorque ea exoritur quæstio de ipsis foliis, quæ, ubi bracteæ sunt petiolatæ, cum bracteæ folia sint superiora floribusque addita, eaque in his omnibus *breviori* petiolo ac folia inferiora gaudeant, *sessilia* esse seu carere petiolo nequeunt. Aliam igitur plantam descripsisse Burmannum, aliam pictorem pinxisse puto, neque admodum improbabile videtur, pictorem nil nisi ramum quendam angustifolium *Ruelliæ erectæ* Burm., ad latus positæ, (quæ quidem dubia adhucdum restat species) in figura 2. adumbrasse.

6. *Dipteracanthus Nagchana:* caule procumbente basi radicante foliisque oblongis obtusis basi cuneiformibus repando-crenatis scabris, pedunculis brevissimis trifloris, bracteis binis spathulatis, corolla calycis laciniis subulatis elongatis breviore, antheris basi biaristatis. —*Ruellia Nagchana* Hb. Hamilt. Wall. Cat. n. 2396.

In Patna cl. Hamilton legit.

Pulegii habitu, caule spithamæo, foliis pollicaribus, $\frac{1}{2}$ poll. latis. Calyx 3 lineas longus.

7. *Dipteracanthus erectus:* caule erecto pubescenti-cano, foliis ovato-ellipticis obtusis basi acutis subcrenulatis utrinque hirtis, floribus subternis corymboso-subsessilibus, corollâ tubuloso-infundibuliformi.—*Ruellia erecta β elongata* Roth Nov. Pl. Sp. p. 308. n. 9. *Ruellia axillaris* Wall. MSS. *Ruellia strepens* Wight Hb. n. 31. ex parte, cum *Ruellia crispa* β mixta.

Crescit in India or. Wight Herb. In Paghamew et Yenongheun d. 25 Sept. a. 1826.

Ruellia erecta v. α Roth. nobis est *Dipteracanthus patulus;* v. β probabiliter distincta est species, nimis enim discrepat florum et pubescentiæ naturâ, quam quæ conjungi possit.

8. *Dipteracanthus patulus:* caule erecto foliisque ovatis utrinque obtusis cano-puberulis, floribus fasciculato- ternis quinisve brevissimè pedicellatis, corollâ inflato-infundibuliformi.—*Ruellia patula* Jacq. Misc. II. p. 358. Ic. rar. I. t. 119. Willd. Sp. Pl. III. 1. p. 364. Spr. S. V. II. p. 822. n. 36. Wall. Cat. n. 2385 ex parte. *Ruellia erecta* var. *α.* Roth N. Pl. Sp. p. 308. Spr. S. V. II. p. 823. n. 48.

β. humilior, floribus solitariis.—*Ruellia aromatica* Roxb. in Herb. Madr. Wall. Cat. n. 2385 ex parte.

Crescit in Tanjore ad oppidum Negapatam, (Wight). In India or. Jacq., Heyne. In Herb. Madr. *α.* et β.

9. ? *Dipteracanthus urophyllus:* fruticosus, glaber, foliis oblongolanceolatis caudato-cuspidatis serratis, spicis axillaribus oppositis, bracteis bracteolisque foliaceis spathulatis petiolatis, corollæ incurvæ laciniis duabus superioribus brevioribus.—*Ruellia urophylla* Wall. Cat. n. 2344.

In Pundua. (F. D.)

Habitus certè alienus a DIPTERACANTHI genere.—Folia inferiora (cum petiolo $1\frac{1}{4}$ pollicis) 6—7 poll. longa, 2 p. lata. Corolla semipollicaris vel paullò longior, extùs intùsque pubescens. (Fructus deest.)

Adnot. *Generis proprii* esse videtur hæc species, sed characteres certi non suppetunt. Sequentibus circumscribendum foret genus:

Char. gen. Calyx quinquepartitus, bracteolis foliaceis petiolatis instructus. Corolla resupinata, campanulato-infundibuliformis, limbo inæquali, laciniis superis brevioribus (deorsùm versis). Stamina quatuor didynama; antheræ bilocellatæ, locellis parallelis contiguis muticis. Stylus apice incrassatus; stigma bifidum. Ovarium in parte superiore biloculare, quadriovulatum. Fructus . . . . .—Inflorescentia: spicæ axillares; flores distantes, oppositi. Bracteæ inæquales et bracteolæ petiolatæ, herbaceæ, patulæ.—Frutex serratifolius.

XIII. PETALIDIUM*.

Ruelliæ spp., Roth, Wall., Heyne.

Calyx æqualis, profundè quinquepartitus, bracteolis duabus valvatim inclusus. Corolla infundibuliformis, limbo subæquali quinquefido. Stamina didynama inclusa; antheræ oblongæ, sagittatæ, locellis parallelis æqualibus basi aristatis. Stigma bifidum, laciniis filiformibus. Capsula basi brevi spatio compressa asperma, hinc in medio tetrasperma. Dissepimentum completum, adnatum, persistens. Semina retinaculis uncinatis subulatis suffulta, ovata, acuta, compressa, immarginata.—Inflorescentia: flores pedunculati, axillares, solitarii vel in ramulo brevi fasciculum axillarem exhibentes, bracteolis magnis valvatim contiguis, Barleriam mentientibus.

Petalidium barlerioides.—*Ruellia barlerioides* Roth Nov. Pl. Sp. p. 310. n. 10. Spr. S. V. II. p. 821. n. 21. Wall. Cat. n. 2389 a, b. *Ruellia bracteata* Roxb. Herb. Wall. Cat. n. 2389 c.

In Sheikpure et Monghir d. 5 Aprilis 1811 primus invenit cl. Hamilton; in montibus, valli Deyræ vicinis, a. 1826. Wallichius.

Frutex glaucescens, foliis oblongis crenato-dentatis, penninervibus, (cum petiolo $\frac{3}{4}$ pollicis,) $2\frac{1}{2}$ poll. longis, $\frac{3}{4}$ poll. latis. Corolla pollicaris, extùs glanduloso-pubescens, intùs circa fauces flavo-hirsuta, cœrulea (?), tubo brevi, limbo campanulato. Bracteæ $\frac{3}{4}$ poll. longæ, ovatæ, acutæ, integerrimæ, concavæ, penninervi-reticulatæ, pallidæ.

XIV. RUELLIA.

Ruelliæ spp., Linn., Roxb., Roth, Wall.

Calyx ad basin quinquepartitus, laciniis subæqualibus linearibus apice subdilatatis herbaceis, vel æqualibus acuminatis. Corolla infundibuliformis tubo in limbum angustè campanulatum quinquefidum continuè transeunte, laciniis æqualibus obtusis. Stamina quatuor, didynama, basi faucium inserta. Antheræ oblongæ, bilocellatæ, locellis parallelis contiguis æqualibus muticis vel basi mucronulatis. Stigma subulatum, spirale, dorso spongiolosum canaliculatum, basi denticulo auctum. Capsula angusta, quadrangularis, ad basin usque bilocularis, a basi ultra medium sex-octosperma. Dissepimentum completum, adnatum. Semina retinaculis mediocribus suffulta.—Inflorescentia: spicæ, plerumque in capitulorum formam contractæ, foliaceo-bracteatæ ideòque rudes et parùm conspicuæ. Bracteolæ nullæ vel angustæ. Flores mediocres.—Pleræque herbaceæ sunt et hirsutæ.

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* πεταλον, πεταλιδιον, *bracteola*, ob bracteolarum in hoc genere amplitudinem.

a. Ebracteolatæ, vel plerumque ebracteolatæ.

1. *Ruellia latebrosa* Roth: foliis ovatis grossè serratis cauleque erecto adscendenteve hirtis, spicis axillaribus solitariis geminisve terminalibusque capituliformibus, bracteis communibus lanceolatis ciliatis calycem æquantibus, propriis nullis, capsulâ hexaspermâ, antheris basi calcaratis.—*Ruellia latebrosa* Roth Nov. Sp. Pl. p. 307. Spr. S. V. II. p. 825. n. 68.—Hb. Wight.—*Ruellia diffusa* Wall. Cat. n. 2383 b. *Ruellia fasciculata* Wall. Cat. n. 2394 b. *Ruellia erecta* Hb. Hamilt. Wall. Cat. n. 2395 a. *Crossandra*? *radicans* Herb. Hamilt. Wall. Cat. n. 2395 a. (sub *Ruellia erecta*). *Ruelliæ* species, *latebrosa* Roxb. sched. Hb. Wallich.

Crescit in India or. Ad Islamnaghur, et Giriak. (Hamilt.) In Hurdwar, a. 1825. (Wallich.)

Distinctissima, a Rothio l. c. optimè descripta.

Adnot. Cum *Ruellia sarmentosa*, ob bracteolas nullas, antheras basi biaristatas, atque habitum, fortassè in genus novum conjungenda.

2. *Ruellia diffusa* Wall.: foliis oblongis petiolatis serratis cauleque tetragono procumbente ramoso hirsutis, ramis divaricatis geniculatis, spicis axillaribus pedunculatis capituliformibus, bracteis foliaceis lanceolatis spicâ longioribus, bracteolis propriis nullis, capsulâ octospermâ, antheris basi mucronatis.—*Ruellia diffusa* Wall. Cat. n. 2383 a, b, c. *Crossandra diffusa* Hb. Hamilt. Wall. Cat. l. c. a.

Crescit in montibus circa ripas Irawaddi fluminis juxta Prome et contra hoc oppidum. Legit a. 1826; in montibus Toong Dong; in Hurdwar a. 1825 Wallich; in Chunar d. 1 Maii a. 1813. cl. Hamilton.

Caulis brachiatus. Folia caulina inferiora cum petiolo 1½-pollicari 4 pollices longa, superiora et ramea circiter pollicaria. Corolla purpurea.

Adnot. Simillima *Ruelliæ latebrosæ* et fortassè hujus varietas. Differt caule diffuso, capsulâ majore rigidiore octospermâ (non hexaspermâ) etc.

3. *Ruellia sarmentosa:* foliis ovatis petiolatis apicem versus crenato-serratis internodiis brevioribus cauleque repente hirsuto-canis, spicis axillaribus pedunculatis capituliformibus, bracteis communibus foliaceis oblongis, propriis nullis, capsulâ dodecaspermâ.—*Ruellia latebrosa* Wall. Cat. n. 2382 a, b. *Ruellia hirta*? Herb. Hamilt. Wall. Cat. n. 2382 e. ex parte [; *altera* pars est *Ætheilema reniforme* Wall.]

β *urens:* foliis bracteisque magìs rotundatis undatisque, his hirsutissimis.—*Ruellia urens* Roth Nov. Sp. Pl. p. 302. n. 3. Roxb. Hb. n. 18. *Ruellia diffusa* Wall. Cat. n. 2383 a. ex Herb. Roxb., adjectâ schedulâ, nomine *R. urentis* Roxburghii manu inscriptâ.

Ex Horto b. Calc.—In Sukanaghur et in Kuwarikot, d. 14 Apr. 1809. (Hamilt.) Vidi exemplum Herb. Roxb.—Var. β. in Herb. Roxburghiano.

Caulis gracilis geniculatus, foliis (cum petiolo 1½—2-lineari) 8—9 lineas longis, 4 lin. latis. Corolla circiter 6 lin. longa. Capsula lanceolata, depresso-tetragona.

Adnot. 1. *Ruelliæ hirtæ* Vahlii si demas "folia oblonga," nostram habebis plantam.

Adnot. 2. Certò hæc quidem est *Ruellia latebrosa* Roxb., sed quoniam alia jam exstat ejusdem nominis species, à cl. Rothio dudum proposita, et aliæ ferè cum eadem confusæ esse videntur, nomine prœlo adhucdum non evulgato nostram distinguere, quam synonyma scriptorum augere, malui.

4. *Ruellia quadrifaria* Wall.: caule fruticoso dichotomo-divaricato scabro, foliis ovatis utrinque acutis serratis hirsuto-incanis, spicis axillaribus terminalibusque ovatis tetragonis, bracteis oblongis apice serrulatis.—*Ruellia quadrifaria* Wall. Cat. n. 7152.

Crescit in jugo montium Taon Dong dicto, lecta die 12 Novembris a. 1826.

Caulis fruticosus pedalis vel sesquipedalis, adscendens. Folia superiora majora, 3—3¼ poll. longa, 2 p. lata. Spicæ in pedunculo ½—1-pollicari sesquipollicares. Corolla ¾ pollicis longa, violacea.

Observ. Hìc loci commemoranda est species memorabilis Luzonæ insulæ:

Ruellia decipiens: caule fruticoso tetragono foliisque ovali-oblongis utrinque acuminatis repandis subtùs asperis, spicis terminalibus compositis elongatis, bracteis imbricatis ovalibus mucronatis ciliatis deciduis.—*Ruellia decipiens* N. ab E. in Reliqu. Hænkean. ined.

Crescit in Luzon insula Philippina. (Hænke.)

Est planta *Justiciæ Ecbolii* aut *Gendarussæ ventricosæ* habitu, floribus oppositis inferioribus spicæ ternis, superioribus singulis. Calyx 1½-linearis, paulò ultra medium divisus (!).

b. Bracteolatæ.

5. *Ruellia crispa* Linn.: foliis ovatis utrinque acutis undulato-crenatis lineolatis cauleque herbaceo basi repente hispidis, capitulis axillaribus oppositis bracteatis hirsutis, bracteis exterioribus obovatis apice crenatis.—*Ruellia crispa* Linn. Sp. Pl. p. 886. Osb. it. p. 240. Mill. Dict. n. 4. Willd. Sp. Pl. III. 1. p. 368. Spr. S. V. p. 824. n. 61. Wight Herb. propr. n. 30.

β. capitulis subsessilibus.—*Ruellia strepens* Herb. Wight n. 31 ex parte.

Crescit in India or.—Vidi exempl. Hb. Wightiani, loco non indicato.

Exemplum nostrum maximè accedit *Ruelliæ urentis* Rothianæ descriptioni, in nonnullis autem discrepat a *Ruellia crispa* Linn.—Folia cum petiolo pollicari 3 poll. longa, 1 p. lata. Corolla 4-linearis, purpurea (?) [flava: Linn.]—Fructus deest.

6. (?) *Ruellia attenuata* Wall.: foliis cordatis serratis caudato-acuminatis hirtis, petiolis alatis, pedunculis axillaribus terminalibusque trifidis hirsutis, spicis brevibus interruptis, bracteis bracteolisque lanceolato-linearibus obtusis, calycis laciniâ superâ longiore.—*Ruellia attenuata* Wall. Cat. n. 2345.

In Nepalia legit Wallichius.

Caulis herbaceus, quadrangularis. Folia inferiora cum petiolo 3—4 pollicum 7—8 poll. longa, 2¼—2½ p. lata, ovata, cordata; summa sessilia. Corolla pollicaris, limbo angustè campanulato.

XV. Phlebophyllum *.

Ruelliæ sp., Wall.

Calyx profundè quadripartitus, lacinia superiore profundè bifida. Corolla infundibuliformis, limbo quinquefido, laciniis emarginatis repandisque. Stamina duo, non exserta. Antheræ bilocellatæ, locellis parallelis muticis. Stamina sterilia nulla. Stigma simplex, subulatum. Capsula basi compresso-asperma, apicem versus bilocularis tetrasperma.—Inflorescentia: spica, bracteis communibus imbricatis latis, propriis geminis angustis. Color corollæ luteus.—Folia serrata.

Phlebophyllum Kunthianum.—*Ruellia Kunthiana* Wall. Cat. n. 2367.—Wight Hb. propr. n. 39. (genus indeterminatum.)

E Nilghiry. E. Noton, (Wight.)

Fruticosum, caule humili quadrangulari, foliis ovalibus undato-serratis suprà lineolatis hirtis subtùs venoso-reticulatis albo-tomentosis, 1—2 poll. longis, ¾—1 p. latis. Spicæ axillares, pedunculatæ, alternæ, ovatæ, pollicares et ultrà. Calyx 6—8 lin. longus. Corolla 9—10 lin. longa purpurea (?) vel lutea (?), tubo brevi, fauce cum limbo elongato-campanulatâ.

XVI. Buteræa.

Ruelliæ sp., Wall.

Calyx bipartitus, labio superiore breviore trifido, inferiore bifido vel bipartito. Corolla infundibuliformis, limbo subæquali quinquefido, laciniis emarginatis. Stamina quatuor didynama, non exserta; antheræ lineares, locellis parallelis æqualibus muticis. Stigma acutum. Capsula tetragona, prope a basi tetrasperma; dissepimento completo a parietibus solubili. Semina subrotunda, compressa, retinaculis subtensa.—Inflorescentia: spicæ axillares imbricatæ, bracteis oppositis latis herbaceis venosis. Bracteolæ parvæ.—Frutex rufo-hirsutus, foliis dentato-crenatis. Flores mediocres.

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* A φλεψ *vena*, et φυλλον, propter folia egregiè venosa.

Genus NEURACANTHO confine charactere, sed habitûs alieni; ab ADENACANTHO, cui habitu accedit, differt calycis labiis inæqualibus, inferiore ad basin partito, bracteolisque parvis.

Buteræ, Principi Siciliano, horticulturæ summo fautori, multisque terrarum remotissimarum stirpibus Italiæ cœlo assuefactis amœnissimi terræ anguli amœnitates novis ornamentis excolenti, sacrum esse hoc genus jubeo.

Buteræa ulmifolia.—*Ruellia ulmifolia* Wall. Cat. n. 2360.

Ex Horto Botanico Calcuttensi.

Frutex, ramis ramosis, novellis spicisque rufo-hirsutis, bracteis rhombeo-ovatis. Folia opposita, inæqualia, alterum 3 poll. longum, 1¼ latum, alterum vix pollicare, ovalia, petiolata. Corolla semipollicaris, pallidè violacea, tubo gracili incurvo, limbo ventricoso-campanulato. Capsula 3 lin. longa, pubescenti-scabra, tetragona.

Adnot. *Ruellia rufescens* Roth Nov. Pl. Sp. p. 304. n. 5. et ea quidem ex Horto bot. Calcuttensi profecta, certò congener est, nisi eadem planta. Reverentiâ autem motus, metuque, ne, quod alteri fecerim, mihi fiat, in verbis auctoris nihil levi pede transeo, et "bracteas lanceolatas margine setosas" si nostram plantam tractavisset, cl. Rothium certò suæ non tributurum fuisse statuo. Quod præter lacinias duas, bi- et trifidas, tertiam minimam ovalem plantæ adscribit auctor, in hoc eum errasse dubium non est, cum calycem sexfidum ex hisce componat.

XVII. ADENACANTHUS[*].

Calyx tripartitus, laciniâ superiore trifidâ. Corolla infundibuliformis, limbo subæquali quinquefido, laciniis obtusis. Stamina quatuor didynama; antheræ bilocellatæ, magnæ, locellis parallelis. Ovarium biloculare, supra basin quadriovulatum; ovula compressa, retinaculis nondum evolutis.—Inflorescentia: spica, bracteis floribusque oppositis. Bracteæ communes et bracteolæ subconformes, herbaceæ.

Adnot. Est BUTERÆA, calycis laciniâ inferâ ad basin usque discissâ.

Adenacanthus acuminatus.—Wall. Cat. n. 7153.

E regno Birmanico; sed locus incertus. Ann. 1826.

Genus et species distincta, sed exempla non sufficientia.—Caulis herbaceus, erectus, nodosus, ramosus, ramis oppositis gracilibus. Folia 4—5 pollices longa, 1¼—1½ poll. lata, opposito dimidio minore, oblongo-lanceolata, longè acuminata, brevi-petiolata, repando-dentata, penninervia, glabra, utrinque glanduloso-punctata. Spica terminalis, pollicaris. Corollæ ½ poll. longæ vel longiores. Filamenta staminum hirsuta; antheræ ratione floris magnæ, ovatæ.

XVIII. STENOSIPHONIUM[†].

Ruelliæ spp., Wall.

Calyx quinquefidus, laciniis æqualibus, primùm ultra medium marginibus membranaceis conjunctis, post anthesin ad basin discedentibus. Corolla infundibuliformis, tubo gracillimo, limbo inflato-campanulato quinquefido, laciniis æqualibus obtusis. Stamina quatuor didynama; antheræ angustæ, locellis parallelis arctè contiguis æqualibus muticis. Stigma dorso membranaceo-cristatum, apice subulatum. Capsula tetragono-columnaris, ad basin usque bilocularis, a basi ultra medium octosperma. Dissepimentum completum, adnatum. Semina lenticularia, mucronata, læviuscula.—Inflorescentia: spicæ axillares et terminales. Flores discreti, oppositi, singuli vel aggregati. Bracteæ latiusculæ, appressæ, rigidulæ. Bracteolæ angustæ, calyci consimiles. Flores in fauce maculati.—Frutices.

1. *Stenosiphonium subsericeum:* foliis ovatis dentatis, junioribus subtùs ramisque hornotinis albo-tomentosis, bracteis rhombeo-ovatis longè cuspidatis calyces æquantibus.—*Ruellia subsericea* Wall Cat. n. 2416. *Ruellia sesamoides* Wall. Cat. n. 2408 a (ex parte), b (ex parte). *Ruellia* Wall. Cat. Wight Herb. propr. n. 26.

In collibus apricis Madras et Chinglipul. (Wight l. c.)—Exempla Wallichiana eadem sunt, a Wightio lecta.—Vidi etiam exempla Herb. Madr. et Herb. Wight. in Herb. Wallich. (n. 2408 b, quo sub numero *Stenosiphonium subsericeum*, *Endopogon Amomum* et *E. hypoleucus* promiscuè occurrunt). Subsericei nomen alteri, sesamoidis scil., præferendum putabam, cum maximè conveniens esset plantæ integumento variabili.

Folia longè petiolata. Corolla pallida videbatur, maculis ad faucem violaceis. Calyx pilis glandulosis densè vestitus. Differt a sequente foliorum petiolis longioribus, dentibus grossioribus et tomento paginæ inferioris ramulorumque.

2. *Stenosiphonium Russellianum:* foliis ovatis dentatis subtùs nudis bracteis rhomboideis obtusè cuspidatis calyces æquantibus.—*Ruellia Russelliana* Wall. Cat. n. 2400. *Ruelliæ spec. nova* Herb. Russelliani. *Ruellia arcuata* Wall. Cat. n. 2334 a, b. *Ruellia* Wall. Cat. Wight Herb. propr. n. 29.

In Dindygul legit cl. Wight.—Vidi etiam exemplum Herb. Madr.

Frutex, foliis caulinis plerisque 5—6 poll. longis, 2 poll. latis, in petiolum ferè 1½-pollicarem decurrentibus, summis 1—3-pollicaribus, acuminatis. Corolla speciosa, pollicaris, cœrulea, fauce saturatiùs maculata.

Adnot. Affines sunt hæ species ENDOPOGONIBUS, sed differunt corollâ regulari, alabastro obtuso, staminibus quatuor, stylo libero, capsulâ octospermâ.

XIX. STROBILANTHES, *Blume.*

Ruelliæ sp., Linn., Wallich.

Calyx subæqualis ad basin usque quinquepartitus, laciniis herbaceis linearibus, apicem versus quandoque latioribus. Corolla infundibuliformis, tubo in limbum campanulatum non abruptè transeunte; laciniæ æquales, vel subæquales, rotundatæ vel emarginatæ. Stamina quatuor didynama, faucium medio inserta, non prominentia. Antheræ oblongæ, muticæ, locellis parallelis contiguis æqualibus. Stigma subulatum, incurvum vel involutum, dorso spongiosum canaliculatum. Capsula columnaris, tetragona, ferè ad basin bilocularis, in medio tetrasperma. Dissepimentum tenue, sursùm incompletum, adnatum, a valvulis quandoque solubile. Semina discoidea, angulata, in ambitu utrinque areolatim insculpta, angulo juxta hilum magìs prominulo, retinaculis uncinatis suffulta.—Inflorescentia: spicæ, magìs minùsve densæ, axillares terminalesque, erectæ, cernuæ vel nutantes. Bracteæ foliaceæ vel foliaceo-membranaceæ, persistentes, vel caducæ floresque denudantes. Bracteolæ parvæ, quandoque nullæ.—Frutices, rariùsve herbæ. Flores e majoribus, teneri, cœrulei vel albi.

(I.) Strobilanthes propriæ.

a. *Sclerostrobilanthes.* Spicæ rigidæ, densæ, erectæ, bracteis persistentibus.

1. *Strobilanthes rosea:* fruticosa, foliis lanceolatis subtùs lanuginoso-canis, spicis terminalibus corymbosis glanduloso-hirtis. Wall. Cat. n. 7154.

Taong Dong, die 27 Novembris.

Folia 3½—7 poll. longa, 8 lin. ad 1¼ poll. lata, petiolata. Corollæ pollicares, roseæ (Wallich).

2. *Strobilanthes scabra:* fruticosa, caule hispido, foliis obovato-ellipticis dentato-crenatis suprà lineolatis exasperatis setulisque dissitis hirtis subtùs pallidis, spicis infraterminalibus oppositis, terminalibus ternis, glandulosis.

α. foliis suprà setulis inspersis, inflorescentiâ lanuginosâ. *Ruellia scabrida* Wall. Cat. n. 2393 c.

β. foliis ad nervos scaberrimis, inflorescentiæ ramificationibus pubescenti-scabris, spicis infernè foliosis, bracteis hirsutis glandulosisque. *Ruellia scabra* Wall. Cat. n. 2393 a, b.

γ. foliis asperrimis.—*Ruellia scabra* Hb. Wight. Wall. Cat. n. 2377.

In Prome collibus Promæ oppositis a. 1826.—Var. β in Sillet et in H. b. Calc. e montibus provinciæ Sillet introducta.—Var. γ vidi in Herb. Wight.

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[*] Ab *αδην glandula*, et *ακανθος*, ob folia glanduloso-punctata.

[†] A *στενος angustus*, et *σιφων tubus*, ob tubum corollæ ratione faucium angustum.

Folia speciosa, 6—8 poll. longa, 3 poll. lata; in β paullò minora. Inflorescentia terminalis, 1½—2 poll. longa. Corolla purpurascens. Seminum retinacula maxima, conica, suprà excavata.

3. *Strobilanthes glaucescens:* fruticosa, caule erecto teretiusculo scabro, foliis oblongis utrinque attenuatis crenulatis subtùs ad costas scabris glaucescentibus, spicis terminalibus, bracteis ovatis obtusè cuspidatis hispidis.—*Ruellia glaucescens* Wall. Cat. n. 7155.

E montibus Promæ, a. 1826.

Folia 3½—5 poll. longa, suprà densè lineolata. Spicæ 1¼—1½ poll. longæ, ovato-cylindricæ. Corolla circiter ¾ pollicis longa, purpurascens. Filamenta brevia, hirsutissima, minorum staminum adeò contracta ut antheram obliquè basi majoris filamenti inhærere arbitreris.

4. *Strobilanthes sessilis:* herbacea, hirsutissima, caule erecto quadrangulari, foliis sessilibus ovatis acuminatis crenatis, spicis axillaribus oppositis terminalique, bracteis ovatis cuspidatis.—Wight Herb. propr. n. 38. (genus adhuc indeterminatum.)

Locus natalis accuratiùs non indicatur a cl. Wightio.

Planta herbacea. Rhizoma horizontale, annulatum. Caulis pedalis circiter. Folia ¾ pollicis longa, sessilia. Spicæ pollicares, ovales. Corollæ pollicares.

b. *Strobilanthes lupulinæ.* Spicæ breves, densæ, axillares, bracteis mollioribus persistentibus tectæ, pedunculatæ, sæpè cernuæ vel nutantes.

5. *Strobilanthes barbata:* caule fruticoso, foliis ellipticis utrinque acuminatis crenulatis glabris, spicis axillaribus oppositis ovatis brevissimè pedunculatis, bracteis orbiculatis lineari-cuspidatis, corollæ bilabiatæ labio superiore barbato.—*Ruellia ciliata* Herb. Madraspat. Wall. Cat. n. 2392 (ex parte).

E montibus Courtallum.

Folia ferè *Strobilanthis ciliatæ* (n. 12.), sed majora et latiora, glaberrima. Spicæ petioli longitudine, erectæ, ovales, vix semiuncia longiores, squarroso-imbricatæ. Corollæ ½—¾ pollicis longæ.

Adnot. Species suspecta, quum neque flores perfecti, neque fructus adsint, calyx verò minùs profundè divisus, ac in congeneribus.

6. *Strobilanthes fimbriata:* caule fruticoso, foliis oblongis utrinque acuminatis denticulatis glabris, spicis axillaribus alternis sessilibus hirsutis, bracteis ovatis cuspidatis inciso-serratis, duabus inferis truncatis, corolla regulari.—*Ruellia fimbriata* Wall. Cat. n. 2363.

In montium Sillet jugo legerunt Fr. De Silva et Guil. Gomez.

Persimilis *Strobilanthi barbatæ*, sed facili negotio distinguenda caule supernè hirsuto, nodis geniculorum altero latere maximè tumidulis, angulis inferis eorum non alatis, foliis oblongis, 4½ poll. longis, 1¼ poll. latis, distinctè et confertìm denticulatis, spicis alternis rufociliatis et ob bracteas inciso-serratas apice patulas subcristatis, tum corollis multò majoribus.—Folia suprà confertissimè lineolata. Corolla ferè sesquipollicaris.

7. *Strobilanthes echinata:* caule fruticoso foliisque oblongis utrinque acuminatis mucronato-serratis setuloso-scabris, spicis axillaribus alternis terminalique brevipedunculatis, bracteis ovalibus obtusis serratis hispidis, bracteolis calycibusque linearibus apice serratis.—*Ruellia echinata* Wall. Cat. n. 2356.

In montibus provinciæ Sillet legit F. D.

Modo crescendi habituque simillima *Strobilanthi fimbriatæ*, sed differt caule setis rigidis multiarticulatis incurvis hispidissimo setisque ejusmodi in omnibus partibus viridibus obviis, spicis duplò ferè majoribus, pollicaribus in pedunculo ¼ pollicis longo, cernuis oblongis etc. (Corolla deest.)

8. *Strobilanthes lupulina:* caule herbaceo glabro, foliis ellipticis acutis in petiolum desinentibus crenatis glabris confertìm lineolatis, spicis axillaribus fasciculatis ovatis hirsutis, bracteis ovalibus ventricosis emarginatis, infimis oblongis remotioribus patulis, calycis laciniis apice bidentatis.—*Ruellia lupulina* Wall. Cat. n. 2355 a. *Ruelliæ* spec. Herb. Madr. Wall. l. c.

Prope Courtallum (Kuttallam h. l. scriptum), ab amiciss. Dr. Mitchell.

Affinis est *Strobilanthi Heyneanæ,* differt caule glabro, nec strigoso, foliis majoribus, 6—7 pollices longis, 2¾ poll. latis, basi apiceque minùs attenuatis cet. Spicæ in pedunculis oppositis semipollicaribus ternæ, ovatæ, duplò majores quàm in *Str. Heyneana.* Dissepimentum completum. Retinacula valida.

9. *Strobilanthes involucrata* Blume: caule (suffruticoso?) glabro, foliis oblongis utrinque attenuatis repandis serratove-dentatis, superioribus ovatis brevibus, spicis axillaribus terminalibusque solitariis subrotundis glabris, bracteis ovalibus ventricosis venoso-reticulatis apice emarginatis, calycis laciniis obtusis.—*Strobilanthes involucrata* Blume Bydr. p. 799.

β. foliis apicem versus dentatis crenatisve, supra margineque hispidulis. Blume l. c.—*Ruellia lupulina* Herb. Wight. Wall. Cat. n. 2355 b.

In Javæ insulæ montanis, Salak, Seribu (Blume).—Var. β in montosis provinciæ Tjanjor Javæ (Blume). Vidi exempl. Javanicum et Herb. Wight.

Differt a *Strobilanthe lupulina*, cujus probabiliter est varietas caule humiliore divaricato ramosissimo nodoso-geniculato, foliis minoribus, 3—3½ pollices (cum petiolo ferè 1½-pollicari) longis, 9—10 lin. latis, setulis raris suprà inspersis, pedunculis brevioribus, spicis minoribus, bracteis pro longitudine latioribus evidentiùs venoso-reticulatis, calycis vix bilinearis laciniis apice integris obtusis. (Flores et fructus desunt.)

10. *Strobilanthes Heyneana:* caule herbaceo strigoso, foliis ellipticis cuspidatis in petiolum longum decurrentibus crenato-serratis hirsutis, spicis axillaribus compositis folio brevioribus glabris subglobosis, bracteis orbiculatis ventricosis, inferioribus remotioribus ramuligeris reflexis.—*Ruellia involucrata* Hrb. Heyn. Wall. Cat. n. 2357.

Ex Herbario Heyneano.

Memorabilis ob summam affinitatem *Strobilanthis callosæ* in tanta universi adspectûs discrepantia. Est planta, uti videtur, humilior, herbacea. Caulis quadrisulcus, ad genicula compressus. Folia 4—5 poll. longa, 1½ poll. lata, petiolo pollicari. Pedunculi pollicares, oppositi. Terminalis spica est globosa. Corollæ semipollicares, rubicundæ (?). (Fructus deest.)

11. *Strobilanthes callosa:* caule fruticoso verrucoso, foliis ellipticis cuspidatis in petiolum longum decurrentibus calloso-denticulatis margine scabris, spicis axillaribus compositis folio brevioribus, bracteis orbiculatis ventricosis inferioribus remotioribus sterilibus.—*Ruellia callosa* Wall. Cat. n. 2359.

Ex H. b. Calc. Introducta a. 1826 e Nagpur, provinciâ Indiæ occasum spectante, a cl. Barstow, subcenturione; floruitque post aliquot annos, postquam Wallichius jam ex India profectus erat.

Planta speciosa. Folia conformia, 7—10 pollices (cum petiolo 2—3-pollicari) longa, 2¾—3½ poll. lata. Spicæ oppositæ, 2—2½ poll. longæ, digiti crassitie; pedunculo 2—3 lineas longo. Corollæ ferè sesquipollicares, cœruleæ, teneræ. (Fructus deest.)

12. *Strobilanthes ciliata:* caule fruticoso verrucoso, foliis oblongis acuminatis in petiolum longum attenuatis mucronato-serrulatis glabris, spicis axillaribus oppositis in pedunculo refractis, bracteis orbiculatis basi cucullato-conniventibus contiguis, (ramis supra genicula fibroso-fimbriatis.)—*Ruellia ciliata* Herb. Wight. Wall. Cat. n. 2415.

E montibus prope Courtallum. (Wight.)

Ad typum accedit *Strobilanthis callosæ*, sed multis differt.—Folia 5—6 pollices longa, 1½ poll. lata. Spicæ subcylindricæ, semipollicares, densè quadrifariam imbricatæ; pedunculi 1½ poll. longi. Bracteæ vix 3 lineas longæ. Flores longitudine bracteæ; corolla lutea (?), calyce paullò longior. (Fructus deest.)

Adnot. Nomen improprium, ad fimbrias internodiorum alludens, quæ quidem pluribus sanisque ramulorum fragmentis planè desunt. Istas vix regulares et speciei proprias, sed morbosam potiùs existimo libri, a cortice denudati, efflorescentiam et dissolutionem, quod magìs etiam microscopii compositi adminiculo probatur.

13. *Strobilanthes glabrata:* fruticosa, glabra, caulis geniculis apophysatis, foliis oblongis utrinque attenuatis denticulatis, capitulis oblongis pedunculatis axillaribus oppositis, terminalibus quaternis

nutantibus, bracteis oblongis imbricatis, corollæ subæqualis laciniis emarginatis.—*Ruellia ? glabrata* Wall. Cat. n. 2390.

E montibus provinciæ Sillet?

Frutex alieni habitûs, generis tamen hujusce typum referens.—Folia 3—4 pollices longa, 1 poll. lata. Pedunculi ¾—1½ poll. longi. Spicæ capituliformes, ¾—1 poll. longæ. Bracteæ ¾ p. longæ. Corollæ pollicares, cœruleæ (?). (Fructus deest).

14. *Strobilanthes imbricata:* caule herbaceo erecto scabro, foliis oblongis utrinque acuminatis crenatis hirtis, spicis axillaribus terminalibusque fasciculatis brevibus, bracteis obovato-cuneatis apice paleaceo-hirsutis. Wall. Cat. n. 7156.—*Strobilanthes hirta* var. *β crenulata* Blume Bydr. p. 797.

In montium jugo Taong Dong dicto d. 13 Novembris a. 1826; "Pingée near the Rock Images," d. 10 Jan. 1827. Absque floribus.—In montosis provinciæ Tjanjor Javæ insulæ. Blume l. c.

Similis *Strobilanthi monadelphæ* (sp. 26.), ut primo intuitu varietas haberi posset; differt verò caule profundè quadrisulco (qui in illa obtusè quadrangulus), foliis densè crenatis utrinque hirto-subincanis, spicis brevioribus, 2—3nis in fasciculo, flore minore, aliisque. Corolla 3 lineas longa, violacea. Ovula suborbicularia; retinacula crassa adunca. Ovarium oblongum, basi annulo nectarifero lato cinctum.

c. *Strobilanthes squarrosæ.* Spicæ magìs elongatæ; bracteæ ex subrotundo-spathulatæ, apice squarrosæ, persistentes; folia in plerisque amplexicaulia.

15. *Strobilanthes Sabiniana:* herbacea, foliis ovatis acuminatis in petiolum attenuatis repando-subcrenatis glabris, opposito minore, summis cordatis amplexicaulibus, spicis axillaribus terminalibusque laxiusculis viscido-pubescentibus, bracteis orbiculatis basi cuneiformibus.—*Ruellia Sabiniana* Wall. Cat. n. 2338. *Ruellia macrocarpa* Wall. Cat. n. 2348 ex parte.

β argentea: spicis minoribus maximè pubescentibus viscidisque, foliis minoribus.—*Ruellia argentea* Wall. Cat. n. 2339.

In Pundua legit F. D. et in Hortum botanicum Calcuttensem transtulit.—Var. *α* et *β* in Napalia a. 1821 legit Wallichius.

Affinitas summa patet *Strobilanthis plumulosæ, auriculatæ* et *amplectentis,* sed distinguenda est *Str. Sabiniana* jàm primo intuitu e glabritie, foliis latioribus, spicisque laxioribus. Caulis basi lignescens, apicem versus, uti videtur, herbaceus. Folia inferiora 8—9 poll. longa, 3—3¼ poll. lata, nervis costalibus septenis octonisve. Spicæ oppositæ, inæquales, altera 4—5, altera 3—3½ pollices longæ; in *β* paullò minores, magìs viscidæ. Corollæ (in var. *β.*) sesquipollice paullò longiores, cœruleæ (?).

16. *Strobilanthes plumulosa:* herbacea, foliis ovato-ellipticis acutis basi cuneiformi-attenuatâ auriculato-amplectentibus inæqualiter serratis suprà hirtis, spicis axillaribus terminalibusque sessilibus, bracteis cuneiformibus obtusis longè ciliatis.—*Ruellia* Wall. Cat. n. 7157.

In Promæ montibus a. 1826.

A *Strobilanthe amplectente* differre videtur caule acutangulo, lateribus profundè canaliculatis, foliis subtùs extra margines glabris, et bracteis cuneiformibus longè ciliatis, nec verò tomentosis.

17. *Strobilanthes auriculata* Nees ab Esenb. (vid. suprà,)—*Ruellia auriculata* Wall. Cat. n. 2341 a, b. *Crossandra ? spicata* Herb. Hamilt. in Wall. Cat. sub n. 2341 b.

In Belem, die 16 Decembris a. 1811 legit Hamiltonius.—Ex Horto b. Calc., ubi introducta e Nepalia a. 1821.

Frutex. Folia inferiora 6—7 pollices longa, 1½—1¾ p. lata, superiora ½—2 poll. longa. Spicæ 1—3 poll. longæ, tetragonæ. Corollæ speciosæ, 9 lin. longæ, dilutè cœruleæ. (Fructus deest.) Ovarium oblongum.

18. *Strobilanthes amplectens:* herbacea, foliis elliptico-oblongis utrinque attenuatis dentatis hirtis basi auriculatâ amplectentibus, spicis axillaribus terminalibusque tomentosis, bracteis spathulatis acutis squarrosis longè ciliatis.—*Ruellia amplectens* Ejusd. MSS. Wall. Cat. n. 7158.

Taong Dong, d. 27 Novembris a. 1826.

Strobilanthi auriculatæ simillima, nisi eadem. Differre videtur caule herbaceo quadrangulari lateribus excavatis, glabro, foliis amplioribus, 10—12 poll. longis, 2¾—3 p. latis, grossiùs dentatis, bracteis magìs cuspidulatis longiùsque ciliatis, filamentis basi tantummodò hirsutis, etc.

d. *Strobilanthes denudatæ.* Spicæ primò densæ et breves, progrediente evolutione autem sæpè elongatæ, bracteisque defluentibus denudatæ; in una specie capituliformes. Bracteæ amplæ: inferiores foliaceæ; superiores tenuiores.

19. *Strobilanthes Wightiana:* hirsutissima, caule erecto tetragono, foliis ovatis petiolatis undulato-crenatis rugosis, spicis axillaribus oppositis terminalique bracteisque foliaceis ovatis, corollæ bracteâ paullò longioris laciniis emarginatis.—Wight Herb. propr. n. 37.

E Nilghiry.

Caulis herbaceus, pedalis et altior, crassiusculus. Folia 2 poll. longa petiolo ⅓ pollicis longo addito, 1 poll. ferè lata; ramea minora, subrotunda. Spicæ magnitudine cerasi mediocris. Corollæ 8—9 lin. longæ, igneo-aurantiacæ, tubo brevissimo.

Adnot. Vix dubium restat, quin sit proprii generis typus, sed non sufficiunt notæ leviores, quas prodit inflorescentia etc., ad characterem conficiendum. Plura deinceps fructus (qui exemplis nostris deest) docebit.

20. *Strobilanthes Mysurensis:* caule erecto profundè quadrangulari, foliis ovatis crenulatis suprà hirsutis, spicâ terminali, bracteis oblongo-lanceolatis acuminatis villosis densè ciliatis deciduis.—*Ruellia mysurensis* Roth Nov. Pl. Sp. p. 303. n. 4. Spr. S. V. II. p. 825. n. 70. Wall. Cat. n. 2402. ex Herb. Heyn.—Wight Herb. n. 33.

Crescit in India orientali. (Heyne.) Vidi exemplum Herb. Madrasp.

Calyx regularis, laciniis linearibus glandulosis sæpè adhærentibus, basi stipatur bracteolis duabus lanceolatis acuminatis membranaceis calyce duplò longioribus, quarum alteram fortassè pro calycis lacinia sumsit Rothius.—Capsula clavata, basi compressa, apice depressa et biventricosa acuminata, glabra, tetrasperma. Retinacula valida. Bracteæ flore longiores.

Adnot. In Herb. Madrasp. schedula addita est his verbis: "*Ruellia guttata ?* d. 28 Julii a. 1811," quibus aliâ manu hæc adjecta sunt: "cum descr. Vahlii non quadrat, potiùs species nova, Maysorensis nob."

21. *Strobilanthes glutinosa:* hirsutissima, caule fruticoso tereti-usculo, foliis ovalibus utrinque acuminatis serratis, spicis axillaribus oppositis terminalibusque ovatis hirsutis glandulosisque, corollæ bracteâ multò longioris laciniis retusis.—*Ruellia glutinosa,* Wall. Cat. n. 2350.

In Napalia. Wallichius a. 1821.

Similis in universum *Strobilanthi Wightianæ,* differt: caule fruticoso, nec herbaceo medullâque succulentâ farcto, ferè tereti, nodis incrassatis apice setoso-glanduloso. Folia, cum petiolo pollicari, ferè 4 pollices longa, 2 p. lata, non rugosa. Pedunculi axillares pollicares, plerique trifidi. Spicæ erectæ, minùs densæ. Bracteæ ovali-oblongæ, repandæ, multiglandulosæ. Calyx semipollicaris. Corolla sesquipollicaris, cœrulea. Fructus deest, sed ovarium est generis.

22. *Strobilanthes collina:* caule erecto quadrangulari foliisque oblongis basi apiceque acuminatis utrinque lineolatis glabris, spicâ terminali trichotomâ casu bractearum citò denudatâ glanduloso-pubescente, bracteis lanceolatis caducis.—*Ruellia collina* Wall. Cat. n. 2343.

In Penang legit G. Porter.

Caulis aliquot pedes altus videtur, herbaceus, nodosus, sulcis quatuor angulatus angulis obtusis; nodi incrassati. Folia speciosa 7—8 pollices longa, 2 p. lata, petiolo pollicari. Corollæ pollicares, purpureæ (?).

Adnot. An cum Strobilanthibus, quarum bracteæ citò cadunt, distincti generis?

23 ?. *Strobilanthes atropurpurea:* caule herbaceo basi repente, foliis ovatis in petiolum angustè conicum contractis acutis serratis suprà hirtis, capitulis axillaribus pedunculatis foliaceis, bracteolis oblongis obtusis calyce multò brevioribus, corollæ incurvæ laciniis duabus inferis minoribus.—*Ruellia atropurpurea* Wall. Cat. n. 2398.

In Napalia a. 1821 legit Wallichius.

Caulis ½—1 pedem longus, quandòque diffusus. Folia inferiora subrotunda; superiora ovata, 2 poll. longa, 1¼ lata. Capitulum 3—5-florum et ultrà. Calyx 6—8 lin. longus. Corolla 1½-pollicaris, atropurpurea. (Fructus deest.)

(II.) Subgenus: PTERACANTHUS. Capsula ad basin spatio brevi clausa. Spicæ laxæ, foliosæ.

PTERACANTHI, qui STROBILANTHIS subgenus, characterem fusiorem habes:

Calyx profundè quinquepartitus, subæqualis. Corolla infundibuliformis, limbo æquali quinquefido. Stamina quatuor didynama. Antheræ bilocellatæ, locellis parallelis æqualibus muticis. Stigma bifidum. Capsula columnaris, in medio tetrasperma, basi brevi spatio clausa nec contracta. Semina ovata, retinaculis suffulta.—Inflorescentia: spicæ axillares, foliosæ, floribus in axillis foliorum floralium oppositis bibracteolatis, bracteolis parvis. Planta annua.

Adnot. Spicæ STROBILANTHIS in hoc subgenere ad simplicissimam rami figuram distractæ in conspectum veniunt.

24. *Strobilanthes* (*Pteracanthus*) *Wallichii:* caule alato, foliis ovali-oblongis utrinque acuminatis serratis suprà hirtis, spicis axillaribus flexuosis foliosis. *Ruellia alata* Wall. Pl. As. Rar. I. p. 26. t. 31. Cat. n. 2371 a, b.

In monte Sheapore Napaliæ, alt. 10,000′, a. 1821, legit Wallichius; etiam e regionibus magìs adhuc elevatis versus Gossain Than Himalayæ adlata est. Floret Julio, maturos fructus fert Octobri.—In Kamoon, R. Blinkworth.

Caulis basi sublignosus, teretiusculus, superiùs herbaceus tetragonus, ramosissimus, dichotomus, ramis fastigiatis herbaceis. Folia inferiora 5 poll. longa, 1—1¼ poll. lata; petiolo longo angustè alato. Floralia folia opposita, ovato-acuminata, patentia, subsessilia vel sessilia, serrata. Bracteolæ, calyce semipollicari quadruplò breviores. Corolla ¾ poll. longa, purpurea, extùs alba, tubo brevi. Capsula (in var. β) semiuncialis, tetragona. Retinacula e basi crassâ subulata.

Adnot. *Ruelliæ alatæ* cognomen inter *Strobilanthes* mutandum erat, cùm alia ejusdem nominis jam exstet species, a cl. Blumio proposita.

(III.) Subgen. SYMPAGIS. Stamina basi in membranam conflata. Antheræ breves, emisso polline subquadratæ, dipteræ. Spicæ quales in STROBILANTHIBUS SQUARROSIS.

25. *Strobilanthes* (*Sympagis*) *Brunoniana:* fruticosa, foliis lanceolatis in petiolum attenuatis repandis glabris, spicis axillaribus terminalique compositis secundis laxiusculis hirtis, bracteis oblongis, staminibus monadelphis. *Ruellia Brunoniana* Wall. Cat. n. 2368.

In montibus provinciæ Sillet legerunt Franc. de Silva et Guil. Gomez a. 1829.

Caulis fruticulosus, ramosus, ramis gracilibus glabris. Folia 3 circiter pollices longa, 4 lineas lata. Spicæ cum pedunculo basi microphyllo 3—4 poll. longæ, alternæ vel oppositæ, ipsæ pollicares aut sesquipollicares. Corolla 7—8 pollices longa, pubescens, cœrulea (?) tubo gracili. Capsula 3 lin. longa, oblonga, tetragona. Retinacula acuta, bidentula.

26. *Strobilanthes* (*Sympagis*) *monadelpha:* fruticosa, foliis ovalibus utrinque acuminatis serratis suprà hirtis, spicis axillaribus terminalibusque bifidis subsecundis hirsutis, bracteis ovatis, staminibus monadelphis.—Wall. Cat. n. 7159.

In montibus Silhet legit Guil. Gomez a. 1813.

Caulis purpureus, obtusè quadrangulus. Folia longè petiolata, 3-pollicaria. Rami axillares spicigeri, spicâ alterâ longiore 2-pollicari, alterâ vix pollicari. Omnes spicarum partes setis flavis hirsutissimæ. Corolla circiter pollicaris, pubescens, purpurea. Ovarium oblongum, annulo nectarifero cinctum. (Fructum non vidi.)

Antheræ ferè GOLDFUSSIÆ.

XX. ÆCHMANTHERA*.

Ruelliæ spp., Wall.

Calyx quinquepartitus, æqualis. Corolla infundibuliformis, limbo regulari quinquefido. Stamina quatuor didynama, inclusa; antheræ bilocellatæ, apice mucronatæ, locellis æqualibus parallelis basi muticis. Stigma simplex, dorso carinatum. Capsula tetragona, a basi ad medium octosperma. Semina lenticularia, lævia, basi subtruncata, retinaculis acutis subtensa.—Inflorescentia: capitula, bracteis bracteolisque subæqualibus cincta, paniculato- vel corymboso-terminalia.

1. *Æchmanthera tomentosa:* lanuginosa, foliis ellipticis denticulatis, corymbo terminali supradecomposito.—*Ruellia tomentosa* Wall. Cat. n. 2333 a, b.

β humilis, caule humiliore, floribus subglomeratis.

In Napalia legit cl. Wallich; in Kamoon Blinkworth. Var. β cum reliquis promiscua occurrit.

E rhizomate crasso sublignoso caules assurgunt 1—2 pedes alti et altiores, obtusè tetragoni. Folia inferiora cum petiolo 2—2½ poll. longo ¾—1 pedem longa, poll. 2¾ lata; superiora versus decrescunt. Capitula piso duplò triplòve majora, 3—7-flora, hirta. Corollæ pollicares, violaceæ. Capsula calyce, ut bracteæ 3 lineas longæ, vix longior. Retinacula subulata.

2. *Æchmanthera gossypina:* caule foliisque novellis gossypino-tomentosis niveis, foliis cordatis crenato-dentatis, cymis axillaribus brevibus in paniculam terminalem coeuntibus.—*Ruellia gossypina* Wall. Pl. As. Rar. I. p. 38. t. 42. Cat. n. 2332 a, b, c.

In Napalia inferiori juxta ripam fluminis Rapti a. 1821 primus invenit Wallichius; tum prope vallem Degra, in monte Charculi.—In Pingee, in vicinia imaginum rupibus insculptarum, die 10 Jan. 1827. Floret fine pluviarum.

Propter magnam *Æchmantheræ tomentosæ* similitudinem huc retuli plantam hanc pulcherrimam, cujus quidem ipse neque flores, nisi ex icone laudata, nec fructus omninò vidi.—Caulis infernè digiti minimi ferè crassitie, lignosus, medullâ amplâ (ut in præcedente specie) farctus, erectus, tetragonus, tomento candido mollissimo densissimo, gossypium omnimodè referente, vestitus. Folia caulina inferiora 7—9 poll. cum petiolo longa, poll. 3—3¼ lata, ovalia, acuta, basi (nonnihil angustata) cordata et inæqualia, confertìm penninervia, suprà confertìm lineolata setisque hirsuta, subtùs densè pubescentia, incana; petiolo 1½-pollicari. Folia ramorum minora, 3—4 poll. longa, basi rotundata, suprà densè lanuginosa, subtùs candido-tomentosa et rugosa. Flores in pedunculis axillaribus pollicaribus trifloris. Corolla cœrulea. Antherarum mucrones in icone non apparent.

XXI. GOLDFUSSIA.

Ruelliæ spp., Wall., Roxb., Hooker.

Calyx quinquepartitus, subæqualis. Corolla infundibuliformis, limbo quinquefido obtuso æquali. Stamina inclusa, didynama, humiliora sæpè brevissima reflexa. Antheræ nutantes; locelli in connectivo uncinato glanduloso obliqui, ovati, membranacei. Stigma simplex, subulatum, altero latere crenatum. Capsula sexangularis, bivalvis, a dissepimento solubilis, loculis inferiùs dispermis. Semina discoidea, retinaculis subtensa.—Inflorescentia: flores pauci in capitulo, bibracteolati, bracteis deciduis; rariùs spicati, spicâ post delapsas bracteas magìs elongatâ. Capitula pedunculata, pedunculo simplici vel diviso.—Frutices, foliis penninerviis curvinerviis, nervis omnibus apicem petentibus, nec verò attingentibus.

Adnot. Stamina fundo faucis inserta, in costam decurrentia, ad basin divisa, altero ramo seu filamento antheræ vix longitudine, recurvo; altero multò longiore. Connectivum incrassato-securiforme seu ovato-triangulare, fuscum, ad angulum rectum inflexum; ex ejus supero inferoque margine nascuntur locelli membranacei, albi, ovati, tumidi, post pollen emissum valdè corrugati. Capsula profundè sexangularis. Dissepimenti laminæ facilè discedunt, ad dorsum valvulæ crassæ, medio tenues. Retinacula lata, extrorsùm quasi alata. Semen (immaturum) ovatum, acutum, hilo retusum, rugulosum, valdè compressum.

GOLDFUSSIO, amico, Historiæ naturalis in Universitate litterarum Rhenana Bonnensi Professori, Academiæ Cæsareæ Leopoldino-Carolinæ Naturæ Curiosorum Secretario generali et Bibliothecario, viro summi inter rerum naturalium investigatores loci et gloriæ, genus hoc memorabile despondeo.

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* Ab αιχμη *cuspis*, et ανθερα, ob antheras apice mucronatas.

1. *Goldfussia lamiifolia:* foliis subrotundis cuspidatis æqualibus crenatis decuplinerviis, spicis terminalibus ovalibus casu bractearum mox denudatis elongatisque, caule fruticoso repente.—*Ruellia lamiifolia* Wall. Cat. n. 2347.

Lecta in Napalia, a. 1821, a Wallichio.

Caulis 1—2 pedes longus, geniculatus. Folia circiter 2½ pollices cum petiolo longa, 2 poll. lata. Bracteæ longitudine ferè spicæ juvenilis, densè imbricatæ, quadrifariæ. Corollæ speciosæ, sesquipollicares, formæ florum *Digitalis purpureæ*, purpurascentes.—Retinacula magna, uncinata, basi obliqua.—Spicæ ante anthesin ½ poll. longæ, oblongæ, dein nudæ 1—2-pollicares.

2?. *Goldfussia extensa:* foliis sessilibus ovato-acuminatis inæqualibus in medio serratis septuplinerviis hirsutis, spicis terminalibus casu bractearum mox denudatis elongatisque, caule fruticuloso ramis elongatis.—Wall. Cat. n. 7160.

In montibus provinciæ Sillet legit Guil. Gomez, a. 1830.

Tametsi nec flores corollati, nec fructus, in nostro exemplo inveniebantur, ob summam tamen cum *Goldfussia lamiifolia* affinitatem huc referre non dubitabam.—Caulis sesquipedalis, lignosus. Calyces semipollicares.—Capsulæ fragmentum adjectum separatum istam semipollicarem, tetraspermam esse offendebat. Retinacula basi obliquè dilatata, concava.

3. *Goldfussia biceps:* foliis ellipticis cuspidatis basi cuneatis crenatis glabris inæqualibus multiplinerviis, spicis axillaribus terminalibusque geminis ovatis, bracteis oblongo-lanceolatis spicam æquantibus bracteolisque hirtis, caule fruticuloso. Wall. Cat. n. 7161.—*Ruellia glomerata* Ejusd. MSS.

Taong Dong, d. 27 Nov. 1826. (Exempl. incompl.).

Rami lignosi, divaricato-dichotomi. Folia 3½—8 poll. longa, 1½—3 pollices lata, longè petiolata. Bracteæ imbricatæ, 6—8 lin. longæ. Calyx 6—7 lineas longus. Corolla pollicaris. Capsula longitudine calycis. Retinacula uncinata.—Differt a sequente glabritie, foliis utrinque acutis crenulatis, spicis paucioribus oppositis, bracteis interioribus non fastigiatìm prominentibus bracteolisque setis purpureis hirtis.

4. *Goldfussia glomerata:* foliis ovato-subrotundis cuspidatis basi obtusis inæqualibus inæqualitèr grossè dentato-crenatis multiplinerviis spicisque axillaribus oppositis solitariis globosis brevissimè pedunculatis hirsutis, bracteis lanceolatis integerrimis, interioribus capitulum superantibus, caule fruticuloso hirsuto.—*Ruellia glomerata* Wall. Cat. n. 2361.

In montibus Sillet legit Fr. de Silva.

A *Goldfussia capitata* differt: caule (omnium maximè geniculato nodoso atque distorto) setis rigidis longis hirsutissimo, nec mollioribus pilis vestito, foliis latioribus suprà lineolatis nec tuberculatis, capitulis brevissimè pedunculatis, inferioribus omninò sessilibus, in summitate ramorum postquam folia defluxêre, quasi spicam glomeratam interruptam constituentibus etc.;—a *G. bicipite*, cui sanè quoad inflorescentiam magìs est similis, hirsutie, foliis basi obtusis, ramis florigeris magìs elongatis, cet.

5. *Goldfussia capitata:* foliis ellipticis acuminatis basi acutis inæqualibus subduplicato-dentatis multiplinerviis spicisque axillaribus terminalibusque fasciculatis globosis hirtis, bracteis ovalibus apice dentatis spicam æquantibus, caule fruticuloso hirto.—*Ruellia capitata* Wall. Cat. n. 2351.

In Napalia a. 1821 legit Wallichius.

Caulis foliaque brevia hirsutula, hæc suprà papillulis exiguis aspera, minutìm, nec confertìm, lineolata; bracteæ majores quàm præcedentis, obtusæ; bracteolæ oblongæ, obtusæ.

Adnot. Species hæc atque *Goldfussiæ biceps, glomerata* et *capitata* multa sanè ostendunt, quibus varietates esse ejusdem speciei tibi persuadeas. Nefas autem duxi, ex arbitrio eas conjungere.

6. *Goldfussia bracteata:* foliis ellipticis cuspidatis basi cuneiformi sessilibus æqualibus serratis multiplinerviis pubescenti-scabris, capitulis axillaribus aggregatis terminalibusque umbellatis, caule erecto quadrialato hirto.—*Ruellia bracteata* Herb. Heyn. Wall. Cat. n. 2357.

Ex Herb. Heyneano.

Caulis herbaceus, bipedalis et altior, erectus. Folia 9 poll. longa, 3½ p. lata, costis subtùs denis et ternis. Capitula, rectiùsve spicæ nucis moschatæ magnitudine, ovatæ, subsquarrosæ. Corolla ¾ pollicis longa. (Fructus deest.)

7. *Goldfussia nutans:* foliis ovalibus basi apiceque acutis inæqualibus serratis multiplinerviis hirsutis, spicis axillaribus terminalibusque oblongis glabris nutantibus, caule fruticuloso basi repente.—*Ruellia glomerata* Wall. Cat. n. 2361 ex parte.

In montibus provinciæ Sillet legit F. D.

Fruticulus 1—2 pedes altus, a basi trichotomo-ramosus, teretiusculus. Folia superiora majora, 4—5 poll. longa, 1¾—2 poll. lata, suprà lineolata, nervis costalibus 6—9. Calyx 2½ lin. longus, glaber. Corolla pollicaris, lutea (?).

Adnot. *Ruelliæ glomeratæ* Roxb. nomine numeroque herbarii inscriptæ duæ cùm exstent species longè diversæ, *glomeratæ* nomen tribui alteri, cui aptè convenit; isti autem, in cujus inflorescentia nihil glomerati invenies, aliud imposui.

8 *Goldfussia flexuosa:* foliis elliptico-oblongis utrinque attenuatis inæqualibus serratis multiplinerviis, capitulis terminalibus, caule repente.—*Ruellia flexuosa* Wall. Cat. n. 2412.

Ex Herb. Wightiano; loco natali accuratiùs non notato.

Fruticulus 1½—2-pedalis et fortè major, a basi divisus. Folia opposita, alterum majus, 3 poll. circiter longum, 1 p. latum, costalibus ramis 5—6nis. Capitulum subglobosum, piso duplò ferè majus. Bracteæ et bracteolæ (ut et calyx,) 3 lin. longæ, subrotundæ, ventricoso-cucullatæ. Corolla, ut videbatur, calyce paullò major, lutea (?).

9. *Goldfussia pentastemonoides:* foliis elliptico-oblongis utrinque attenuatis inæqualibus serratis multiplinerviis, spicis terminalibus primùm capitatis demùm elongatis denudatisque, caule erecto stricto tetragono.—*Ruellia pentstemonoides* Wall. Cat. n. 2340. *Ruellia cephalotes* Wall. Cat. n. 2352 (planta ineunte florescentiâ, ubi spicæ adhuc clausæ atque globosæ).

In Napalia legit Wallichius, a. 1821.

Similis præcedenti, sed differt caule erecto, alternatìm profundè quadrangulo, glabriore: foliis glabris; capitulis in caule ramisque geminis ternisve longiùs pedunculatis subcorymbosis; bracteis trapezoideis mucronatis. Corollæ pollicares longioresque, cœruleæ.

10. *Goldfussia Cusia:* foliis ovato-ellipticis æqualibus dentatis multiplinerviis, capitulis racemosis.—*Ruellia Cusia* Herb. Hamilt. Wall. Cat. n. 2386.

Ad Gongachora d. 29 Maji a. 1809 legit cl. Hamilton.

Frutex caule crasso, ramis glabris tetragonis. Folia opposita, cum petiolo pollicari 6—7 poll. longa, 2¼—2½ poll. lata. Inflorescentiæ folia decrescentia, bractealia pollicaria. Capitula triflora racemulos ½—1 poll. longos spiciformes construunt. Calyx 5 lin. longus. Corolla 1½ poll. longa, cœrulea (?).

11. *Goldfussia anisophylla:* foliis oblongis caudato-acuminatis, opposito minimo.—*Ruellia anisophylla* Hort. bot. Calc. Hook. Exot. Fl. t. 191. Spr. Cur. post. in S. Veg. p. 236. Wall. Cat. n. 2349 a, b.

In Sillet legit F. D. et in hortum b. Calcuttensen transtulit. Vidi exempla spontanea et ex H. b. Calc.

Rami graciles, virgati. Folia opposita: alterum 4 poll. longum, ¾ poll. latum, septuplinerve; alterum vix pollicare, enerve. Pedunculi ex axilla folii minoris simplices, ½—1 poll. longi, quibus in superiore caulis parte oppositi sunt pedunculi bifidi duplò longiores; (infernè oppositi illis sunt ramuli). Capitula piso paullò majora, e spica contracta orta, sexflora. Calyx 4 lin. longus. Corolla ferè pollicaris, cœrulea. Nectarium hypocrateriforme, breve, ovarium tubo cingens, limbo angusto membranaceo dentato patente. Capsula longitudine calycis, lanceolata.

12. *Goldfussia isophylla:* foliis lanceolatis æqualibus remotè serrulatis septuplinerviis.—Wall. Cat. n. 7162.

Ex horto botanico Calcuttensi, e montibus Sillet introducta.

Similis præcedenti, sed ramis foliisque gracilioribus differt. Folia cujusque paris æqualia, 2½ poll. longa, 5 lin. lata. Pedunculi oppositi, plerique trifidi. Capitula 2—3-flora. Calyces 2¼ lin. longi. Corollæ pollice longiores, cœruleæ, tubo graciliore.

13. *Goldfussia divaricata:* foliis oblongis acuminatis inæqualibus subsessilibus multiplinerviis, pedunculis axillaribus trifidis, floribus dissitè spicatis, fructibus reflexis.—*Ruellia divaricata* Wall. Cat. n. 2372.

E Napalia summa, Emodum versus, retulerunt Wallichii collectores plantarum.

Fruticulus, ramis tortuosis flexuosis tetragonis glabris, ad articulos nodosis. Folia opposita, cuneatìm sessilia, alterum 3—4 poll. longum, 1 poll. latum, alterum plùs duplò minus. Pedunculi ex omnium ferè foliorum axillis, horum longitudine. Flores in ramis pedunculi plerumque quini. Corolla ¾ poll. longa. Capsula 4 lin. longa, lanceolata.

14. *Goldfussia colorata:* foliis ovato-oblongis acuminatis calloso-serratis, opposito minore, capitulis paniculatis.—*Ruellia colorata* Herb. Hamilt. Wall. Cat. n. 2388.

In Borjora d. 29 Nov. a. 1808 legit cl. Hamilton.

Pulcherrima ferè generis. Tota glabra, lævis. Caulis herbaceus, erectus, simplex, quadrangulus. Folia inferiora 7—8 poll. longa, 2½ p. lata; sursùm decrescunt folia; oppositum quodvis dimidiò minus. Capitula 2—3-flora in pedunculis ½—¾ poll. longis. Corolla pollice longior, cœrulea (?), infundibuliformis. Retinacula uncinata.

XXII. Asystasia *Bl.*

Calyx quinquepartitus, æqualis. Corolla subinfundibuliformis, limbo quinquefido subæquali, laciniâ superâ concaviusculâ. Stamina quatuor didynama, inclusa, per paria basi connata. Antheræ bilocellatæ, locellis angustis parallelis basi callosis vel appendiculatis. Stigma capitatum, bilobum vel bidentatum. Capsula basi compresso-attenuata asperma; superiùs depresso-tetragona bilocularis tetrasperma. Semina retinaculis sustensa, discoidea, lobata, basi angulo prominente.—Inflorescentia: racemus spiciformis, secundus, axillaris vel terminalis. Bractea communis et propriæ exiguæ, æquales.—Plantæ herbaceæ, (vel fruticulosæ,) infirmæ. Flores cœrulei, vel luteo cœruleoque varii.

? 1. *Asystasia Kunthiana:* caule fruticuloso tereti foliisque oblongis subtilissimè lineolato-scabriusculis, floribus axillaribus fasciculatis suboppositis, calycibus pubescenti-scabris.—*Ruellia Kunthiana* Wall. Cat. n. 2419.

In Penang a. 1822 legit Wallichius.

Exemplum flore perfecto caret; convenit cum reliquis bracteolis exiguis et fructu, differt inflorescentia et habitu.—Fruticulus 1—2-pedalis, radice amplâ ramosissimâ. Caulis a basi dichotomus, foliis oppositis 3—3½ poll. longis, 1 poll. latis, dissitè penninervibus suprà confertissimè punctulato-lineolatis opposito quovis minore. Fasciculi 2—3-flori, brevipedunculati. Calyx 2½ lin. longus. Capsula omninò generis.

2. *Asystasia macrocarpa:* caule obtusè tetragono procumbente elongato geniculato, foliis oblongo-lanceolatis acuminatis subrepandis utrinque hirtis, spicis terminalibus solitariis geminis ternisve, floribus inferioribus oppositis superioribus secundis, corollæ laciniis integris.—*Ruellia macrocarpa* Wall. Cat. n. 2348, ex parte.

In Napalia, a. 1821. (Wallich.)

Caulis infernè lignescens teretiusculus, supernè magìs herbaceus obtusè tetragonus, ramosissimus. Folia ratione caulis parva, 3½—4 poll. longa, 1 poll. lata. Corolla 6—8 lin. longa, purpurascens. Capsula pollicaris et longior, clavata, acuta, seminibus discoideis.

Adnot. Quod ad antheras proxima *Asystasiæ Coromandelianæ.*

3. *Asystasia plumbaginea:* caule obtusè tetragono foliisque trapezoideis repandis acutis suprà punctato-asperis glabris, spicis terminalibus ternis, floribus inferioribus oppositis superioribus secundis, corollæ angustæ laciniis integris.—*Justicia plumbaginea* Wall. Cat. n. 2487.

In Herbario Madraspatano, ex horto Gubernatoris Madraspatani.

Affinis *Asystasiæ macrocarpæ,* sed multò minor, tenerior, foliis brevioribus et latioribus, suprà non hirtis, corollis angustioribus (6—7 lin. longis violaceis).

4. *Asystasia Neesiana:* caule quadrangulari erecto foliisque amplis ovato-oblongis acutis in brevem petiolum acutè desinentibus integerrimis glabris, racemis terminalibus solitariis ad basin bifidis, floribus alternis secundis glanduloso-pubescentibus, corollæ laciniis integris.—*Ruellia Neesiana* Wall. Plant. As. Rar. I. p. 73. t. 83. Cat. n. 2342.

In montibus provinciæ Sillet. (F. D.)

Eminet inter congeneres foliorum amplitudine, quorum inferiora pedalia sunt, 4 poll. lata; superiora versus parùm diminuentia. Corollæ pollicares bipollicares, roseæ, in racemis subspicatis ramos terminantibus, cum pedunculo communi longo sæpè ferè pedalibus, ipsâ parte florente 3—4-pollicari.

5. *Asystasia denticulata:* caule quadrisulcato flexuoso pubescenti-scabro, foliis oblongis denticulato-crenatis cuspidatis basi cuneiformibus glabris, spicis axillaribus oppositis trifidis, floribus oppositis, corollæ laciniis emarginatis, filamentis hirsutissimis.—*Ruellia denticulata* Wall. Cat. n. 2418.

In Pundua legit F. D.

Caulis herbaceus, aliquot pedum. Folia opposita, 6—8 poll. longa, 1½—1¾ poll. lata, penninervia, suprà densè lineolata, petiolo 1½-pollicari. Spicæ petiolo paullò longiores. Corolla semipollicaris, extùs densissimè pubescenti-tomentosa, flavescens (?); intùs glabra violacea.

6. *Asystasia chelonoides:* caule dichotomo subpiloso, foliis elliptico-oblongis acuminatis basi acutis repando-crenatis suprà margineque pilosulis, racemis axillaribus terminalique secundis, calycibus glanduloso-scabris.—*Ruellia* Hb. Wight n. 24. *Ruellia Coromandeliana* Wall. Cat. n. 2399 e. ex Herb. Wightiano; f, ex parte, ex Herb. Heyneano.

β. foliis minoribus, basi cuneatìm attenuatis.—*Ruellia chelonoides* Wall. Cat. n. 2335 a, b. *Ruelliæ* sp. Herb. Wight. Wall. Cat. (n. 2335 b.)

Crescit . . . Vidi exempla Herbb. Wightiani et Heyneani.—Var. β in Nilghiry legit E. Noton.

Caulis quadrangulus, lateribus profundis. Folia (in α) 6—7 poll. longa, 2—2¼ poll. lata. Racemus in nostra ex dichotomia terminalis 6—7 poll. longus, floribus alternatìm secundis. Corollæ 1½ poll. longæ, purpureæ, pubescentes. Capsula 12—14 lin. longa. Retinacula aculeiformia.

7. *Asystasia Coromandeliana:* caule ramoso, ramis diffusis, foliis cordato-ovatis suprà lineolato-asperis, racemis axillaribus elongatis secundis strictis, calycibus acuminatis:

α. caule foliisque glabriusculis vel totis glabris, foliis subcordato-orbiculatis cuspidatis, calycibus glandulosis hirtulisque pubescentiâ brevi.—*Ruellia Coromandeliana* Herb. Madrasp. Wall. Cat. n. 2399 a, ex parte. *Ruellia secunda* et *filiformis* Herb. Heyn. Wall. Cat. n. 2401 a, b, ex parte.—Herbb. Hamilt. et Wight.; Hb. Wight. propr. n. 25.—*Justicia gangetica* Linn. Amœn. Ac. IV. p. 290. excl. omn. synon. ?

β. caule pubescenti-scabro, vel subvilloso, articulis elongatis, foliis minoribus magìs ovatis, inferioribus præcipuè basi acutis, calyce hirto, basi tantùm glanduloso.—*Ruellia secunda* Wall. Cat. n. 2401 d. (ex Horto b. Calc.); a, ex parte. *Ruellia intrusa* Vahl. Symb. I. p. 45. Willd. Sp. Pl. III. 1. p. 367. Lam. Enc. Méth. VI. p. 343. n. 20. Forsk. Descr. p. 113. ?

γ. caule, præsertìm apicem versus, petiolis calycibusque hirsutis, foliis cordato-orbiculatis sæpè obliquis aliis obtusis aliis breviter obtusèque cuspidatis.—*Ruellia secunda* Vahl. Symb. III. p. 84. Lam. Enc. Méth. VI. p. 346. n. 37. Willd. Sp. Pl. III. 1. p. 372. Spr. S. V. II. p. 824. n. 52. *Ruellia obliqua* Herb. Wight. Wall. Cat. n. 2399 d. *Ruellia coromandeliana* Wall. l. c.

Crescit in Indiæ or. sepibus frequentissima. Vidi exempla Hamilt. et Wallich. ex H. b. Calc., Herbb. Madr., Wight., Heyn.

Caulis (in α) tetragonus, nodosus, ramis subsecundis patentissimis recurvis. Folia 2—3 poll. longa, 1¼—1¾ lata. Racemi axillares et terminales, pedunculati, 2—3 poll. longi, secundi, laxi. Corolla pollice longior, basi lutea, limbo cœruleo. Capsula pollicaris, clavata, acuminata. Retinacula valida.—In var. β rami longi, simplices, procumbentes, articulis 3-pollicaribus; folia 1¼-pollicaria, petiolo ¼-pollicari; corolla 8—9 lin. longa, viscido-pubescens.—Var. γ differt et habitu paullò laxiore, pedunculis longioribus atque corollâ nonnihil majore.

Adnot. 1. *Ruellia intrusa* Forsk. hujus loci esse videtur.—*Asystasia intrusa* Blume Bydr. p. 796. "foliis ovato-oblongis acuminatis" alia est species; *A. nemorum* nobis, quam vide.

Adnot. 2. Nomen *Ruelliæ secundæ*, cùm varietatem designet omnibusque communem *Asystasiis* sistat characterem, delendum erat. Elegi ideò antiquius Herbarii Madrasp., a cl. Wallichio in Catalogo suo receptum.

8. *Asystasia nemorum:* caule erecto dichotomo, foliis elliptico-oblongis acuminatis obsoletè crenatis suprà pilosulis, racemis axillaribus terminalique secundis subspicatis, calycibus hispidulis.—*Ruellia nemorum* Herb. Russell. Wall. Cat. n. 2399 c. *Ruellia umbrosa* Herb. Madr. Wall. Cat. n. 2399 b. *Ruellia secunda var.* Herb. Heyn. Wall. Cat. n. 2399 f, ex parte. *Ruellia coromandeliana* Wall. Cat. n. 2399 b. c, f. *Asystasia intrusa* Blume Bydr. p. 796.

Patria India orientalis. Vidi exempla Herbariorum Russelliani, Madrasp., et Heyn.—In Javæ umbrosis humidis, circa Buitenzorg; floret omni ferè tempore. (Blume.)

Simillima *Asystasiæ chelonoidi*, sed differt caule laxiore, plerumque ex toto glabro, pedicellis spicæ brevioribus, bracteas æquantibus, nec iis duplò vel ultrà longioribus, floribus capsulisque duplò minoribus, cet. An varietas?

9. *Asystasia pauciflora:* radice cauleque infernè repentibus, ramis diffusis, foliis oblongis utrinque acutis subrepandis glabriusculis, racemo terminali filiformi subdiviso, floribus distantibus secundis campanulatis, calycibus glanduloso-scabriusculis.—*Ruellia pauciflora* Wall. Cat. n. 2369.

In provincia Sillet vicinisque montibus legit F. D.

Inter reliquas generis teneritate et parvitate florum insignis, herbacea, pedalis et paullò longior. Folia opposita, patentia, 3—3½ poll. longa, 1 poll. ferè lata. Racemus in apice ramorum solitarius, gracillimus, laxus, 3—4 poll. longus cum pedunculo, aphyllus. Corollæ 4 lin. longæ, violaceæ.

10. *Asystasia Panichanga:* caule trichotomo foliisque ovalibus acuminatis serratis subtùs ferrugineo-subtomentosis, paniculis axillaribus trichotomis, floribus sessilibus secundis, corollæ laciniis lunatis.—*Ruellia Panichanga* Herb. Hamilt., Wall. Catal. n. 2387 a, b.

In Sillet legerunt Hamiltonius et F. D.

Caulis fruticulosus? Folia 5—7 poll. longa, 2¼ poll. lata. Paniculæ axillares, oppositæ, folia subæquantes, floribus distantibus. Corollæ poll. 1¼ longæ, densè pubescentes, cœruleæ (?).

11. *Asystasia calycina:* glabra, foliis oblongis serratis, spicis axillaribus terminalibusque flexuosis, calycibus magnis subulato-cuspidatis bibracteatis, bracteolis nullis.—*Ruellia calycina* Wall. Cat. n. 2417.

In montibus provinciæ Sillet legit F. D.

Planta *Asystasiæ* generali habitu, sed tam peculiari modo deformato, ut ferè proprii generis judicares. Caulis herbaceus. Folia opposita, cum petiolo pollicari 3½—4 poll. longa, 1 poll. lata. Spicæ alternæ simplices vel bifidæ, terminales geminæ ternæve, folio paullò breviores, glabræ, flexuosæ. Rhachis ad genicula compressa bracteisque binis oppositis linearibus sursùm recurvis in singulo geniculo prædita, ex altera parte in genuflexa continuatur, ex altera autem florem profert sessilem, bracteâ oppositâ suffultum, in quem bractea alterius oppositique lateris adscendendo recumbit, ut itaque singulus flos bracteis binis fulciri simulque ad latus a rhachi prolifera tegi videatur. Bracteolæ omninò desunt propriæ quæ dicuntur. Calyx 8 lin. longus. (Corolla non nisi clausa adhuc adest, calyce duplò brevior.)

XXIII. ECHINACANTHUS[*].

Calyx profundè quinquefidus, subæqualis. Corolla infundibuliformis, limbo æquali. Stamina quatuor didynama, inclusa, per paria basi connata. Antheræ sagittatæ, oblongæ, hirtæ, locellis parallelis basi calcaratis. Stigma simplex. Capsula teretiuscula, bilocularis, a basi polysperma. Dissepimentum completum, adnatum. Semina cordato-subrotunda, compressa, retinaculis sustensa.—Inflorescentia: cymæ bifidæ cum intermedio flore, ramis sursùm secundifloris, in paniculam terminalem dispositæ. Bracteæ angustæ. Bracteolæ nullæ.

Differt a RUELLIA antheris basi aristatis et inflorescentiâ; ab ASYSTASIA et reliquis capsulâ pleiospermâ, inflorescentiâ, antheris calcaratis.

Echinacanthus attenuatus.—Wall. Cat. n. 2345 bis, sub *Ruellia attenuata.*

Lectus in Napalia a Wallichio.

Planta herbacea, ½—1-pedalis, erecta, simplex, pyramidalis; foliis basi cuneiformibus subdentatis; infimis maximis, pro mole plantæ 3—8 poll. longis, 1½—2 poll. latis; superioribus, floralibus denique decrescendo brevioribus; paniculâ, plurimam plantæ partem occupante, glanduloso-pubescente. Calyx 7—8 lin. longus; corolla pollice nonnihilò brevior. Capsula 6—7 lineas longa, e tereti subtetraquetra, cum dissepimento duriuscula. Retinacula subulata.

XXIV. LEPTACANTHUS[*].

Calyx profundè quinquepartitus, laciniis angustis, superâ longiore, mediis brevioribus. Bracteolæ et bracteæ diversæ formæ nullæ. Corolla infundibuliformis, limbo quinquelobo inæquali, laciniis duabus superioribus majoribus adscendentibus. Stamina quatuor didynama, non exserta. Antheræ primò cordatæ, demùm semiovales, locellis antrorsùm parallelè contiguis. Stigma subulatum, basi superâ retrorsùm hamatâ. Capsula . . . Ovarium a basi ad medium quadriovulatum; ovula orbiculata, retinaculis crassis subtensa.—Inflorescentia: flores in paniculam terminalem, foliis parvis interstinctam, trichotomam dispositi, secundi, opposito ramulo paniculæ. Pedicelli graciles ex axillis foliolorum floralium. Bracteolæ nullæ. Corolla speciosa, cœrulea.—Planta herbacea.

Genus ASYSTASIÆ propinquum.

Leptacanthus rubicundus.—*Ruellia rubicunda* Herb. Wight. Wall. Cat. n. 2337.

Locus natalis non indicatus.

Planta elegantissimâ specie. Caulis erectus, herbaceus, subteres, simplex ut videbatur, 1—1½-pedalis. Folia sursùm decrescentia, petiolata, 7—2½ poll. longa, 2—½ poll. lata, caulina oblonga; floralia ovato-acuminata minima. Panicula ½—1-pedalis, pilosa et glutinoso-tomentosula, trichotomo-decomposita. Corolla pollicaris, purpurea (?).

Subtribus III. BARLERIEÆ.

XXV. ASTERACANTHA[†].

Calyx ad basin quadripartitus, laciniâ superâ paullò majore, inferâ bidentatâ. Corolla profundè bilabiata, labio superiore bifido, inferiore trifido, ad originem laciniarum bicalloso. Stamina quatuor didynama, per paria basi connata. Antheræ bilocellatæ æquales, locellis parallelis glabris nudis. Stigma simplex acuminatum. Capsula bilocularis, compressa, a basi octosperma; dissepimentum adnatum. Semina retinaculis parvis suffulta, ovata, compressa, basi truncata, lævia.—Inflorescentia: verticilli e floribus axillaribus sessilibus bracteatis bracteolatisque, spinis rigidis in ambitu cincti.—Herba annua, angustifolia, magìs minùsve hirsuta.

Asteracantha longifolia.—*Barleria longifolia* Linn. Amœn. Ac. IV. p. 320. Willd. Sp. Pl. III. 1. p. 375. Spr. S. V. II. p. 827. n. 8. Lam. Enc. Méth. I. p. 379. n. 1. Wall. Cat. n. 2505 a—k. *Barleria tomentosa* Wight Herb. ppr. n. 12. *Anchusa angustifolia, verticillis longis aculeis armatis.* Pluk. Alm. p. 30. t. 133. f. 4.

Crescit in India or. (Linn.) Ad Prome a. 1826. Vidi exempla ex H. b. Calc., ex Herb. Madr.—e collibus ad Dindygul, e Madura, Courtallum etc. (Wight); e Napalia, a. 1821 allata; ex Oude a. 1825 (Wallich. l. c. g, h); e Monghir (Hamilton).

Herbacea, radice annuâ, spinis verticillorum senis, foliis lanceolatis hirsutis serrato-ciliatis, 4—6 poll. longis, 4 lin. latis. Spinæ ternæ simplices subulatæ inter par foliorum utrinque prominentes. Corollæ pollicares. Capsula semipollicaris, brunnea, duriuscula.

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[*] Ab εχινος *echinus*, et ακανθος, ob antheras hispidas.

[*] A λεπτος *gracilis*, et ακανθος, ad gracilitatem inflorescentiæ adludens.

[†] Ab αστηρ *stella*, et ακανθα *spina*, ob spinas subverticillatas.

De spinarum lateralium natura mecum dubito. An folia verticillata moliuntur, neque ad perfectionem perveniunt?

XXVI. Barleria, *Linn.*

Calyx quadripartitus, laciniis cruciatìm oppositis, superâ et inferâ multò latioribus, plerumque etiam longioribus magìsque exterioribus, integris vel inferiore emarginatâ; mediis sive lateralibus angustioribus. Corolla infundibuliformis, tubo ratione limbi vel brevi vel longissimo, limbo cum faucibus conico-dilatatis; laciniæ limbi quinque, profundè divisæ: superior brevior. Stamina quatuor didynama, circa basin tubi inserta: par majus longum, corollam subæquans; minus brevissimum, in paucis speciebus antantherum. Antheræ lineares, bilocellatæ, locellis parallelis muticis, minorum staminum breviores vel imperfectæ. Stigma compresso-infundibuliforme, truncatum, limbo integro. Capsula conico-acuminata, rigida, circa basin ferè bilocularis, ibidemque tetra- vel abortu di-sperma; dissepimentum integrum, adnatum. Semina pelliculâ demùm floccosâ induta. Retinacula crassa, concava.—Inflorescentia in aliis axillaris, in aliis spicata; bracteis in spicatis latioribus aut angustioribus. Bracteolæ duæ angustæ, quandòque, ut bracteæ, ciliatæ vel spinosæ. Corolla speciosa, cœrulea, magìs minùsque venosa, vel alba, lutescensve.—Plantæ herbaceæ vel fruticosæ, habitu dissimili, sed typo omninò constante.

Sect. I. Barleriæ propriæ. Tubus corollæ sensu proprio, brevis. Corolla ampla, cœrulea. Flores sessiles e spicatis axillares.—Plantæ elatiores, inermes.

a. *Staminibus quatuor perfectis.*

1.) Floribus spicatis, axillaribus et terminalibus subcapitatis; spicis secundis, bracteis floribusque spiratìm distractis.

1. *Barleria nitida:* caule fruticoso strigoso, foliis ovatis ellipticisve petiolatis, junioribus suprà dissitè setulosis lineolatisque, floribus spicatis, bracteis ovato-ellipticis acutis denticulatis ciliatis nitentibus, calycis laciniis majoribus inæqualibus rhombeo-ovatis acutiusculis ciliatis strigosisque (corollæ laciniâ inferiore breviore).—*Barleria cœrulea* Wall. Cat. n. 2509 h, i. *Barleria cristata?* Herb. Wight (Wall. l. c. h.) *Barleria pungens* Herb. Heyn. (Wall. l. c. i.)—Wight Herb. propr. n. 14.

In collibus nemorosis provinciarum Dindygul, Madura, etc. (Wight.)

Caulis obtusè tetragonus. Folia 3 poll. longa, $1\frac{1}{3}$ p. lata. Spicæ vix 2-pollicares. Corolla speciosa, 2—$2\frac{1}{2}$ poll. longa, pubescens, cœrulea. (Fructus deest.)

2. *Barleria hirsuta:* fruticosa, hirsuta, foliis oblongo-cuneiformibus in petiolum attenuatis suprà asperis, bracteis denticulatis mucronulatis (calycis laciniâ inferiore integrâ).—Wall. Cat. Suppl. n. 130.

In montosis juxta Prome; etiam in montibus Taong Dong dictis, prope Avam, fine a. 1826.

Caulis subteres, foliis oppositis $5\frac{1}{2}$—7 poll. longis. Spicæ axillares, solitariæ, ovatæ, folio suo triplò breviores. Corolla ferè bipollicaris, cœrulea, pubescens, venoso-reticulata.

Adnot. Laciniæ sic dictæ exteriores calycis bracteæ esse videntur, volumine suo calycis veras lacinias, sibi proximas, vel opprimentes vel in unum corpus cum iisdem coalescentes, quo sequitur, calycem floris hoc in genere bi- vel tri-fidum aptiùs quàm quadrifidum, appellari.

3. *Barleria polytricha* Wall.: fruticosa (?), hispida, foliis obovato- vel oblongo-cuneiformibus in petiolum attenuatis suprà lineolatis, bracteis obtusis (calycis laciniâ inferiore bidenticulatâ).—Wall. Cat. n. 7143 (cum *Barleria glabriuscula*).

In ripa Irawaddi fluminis ad Meaong, a. 1826; in Tavoy (Gul. Gomez).

Accedit plurimis *Barleriæ hirsutæ;* differt caule humiliore 1—$1\frac{1}{2}$-pedali, paucifolio, foliis sæpè latioribus neque in pagina superiori tuberculatis, loco tuberculorum lineolatis, bracteis magìs obtusis maximèque, laciniâ calycis inferiore bidentatâ.

4. *Barleria cœrulea* Roxb.: fruticosa (?), caule appresso-strigoso, foliis elliptico-oblongis in petiolum decurrentibus suprà lineolatis glabris, bracteis ellipticis apice subattenuatis mucronulatis ciliatis (calycis laciniâ superiore emarginatâ).—*Barleria cœrulea* Wall. Cat. n. 2509 a, d, e, f, g, k. *Barleria fasciculata* Hb. Russell. Wall. Cat. n. 2509 b.

α. spontanea planta, calycis laciniis obtusis.—*Barleria unilateralis* Herb. Hamilt. Wall. Cat. n. 2509 f.

β. culta, calycis laciniis acutis.—Wall. Cat. n. 2509 g.

γ. spicis subcapitatis.—Wall.

In Swapur, d. 7 Febr. a. 1814, (Hamilton.) In ripa Irawaddi ad Meaong, a. 1826. E Napalia inferiore, (Wallich.)—β et γ in H. b. Calcutt.

A *Barleria hirsuta* differt caule firmiore, strigis maximè appressis quasi lineolato et iis detersis glabriusculo purpureo; foliis basi non adeò cuneatìm attenuatis, calycibus minoribus, laciniis superâ et inferâ apicem versus magìs attenuatis, nonnisi ad nervos et margines ciliatis etc.—Varr. β et γ, in Horto Calc. ortæ, differunt amplitudine foliorum, maximèque calycis laciniis amplioribus acutis, inferâ acutè bidentatâ.

Adnot. 1. *Barleria strigosa* Willd. Sp. Pl. III. 1. p. 379. n. 11. an eadem planta?

Adnot. 2. Exemplum a Gomezio in Sillet lectum, foliis breviùs petiolatis magìs oblongis cauleque omni strigarum vestimento exuto, an propria species?

5. *Barleria dichotoma* Roxb.: herbacea, appresso-strigosa, caule brachiato, foliis ellipticis oblongis utrinque attenuatis petiolatis, spicis axillaribus terminalibusque subcapitatis, bracteis lineari-lanceolatis pectinato-ciliatis calycis laciniis majoribus ovatis subulato-serratis brevioribus.—*Barleria dichotoma* Wall. Cat. n. 2508 a et b, ex parte, c, f, g, h. *Barleriæ cristatæ* var. Herb. Madr. (Wall. Cat. l. c. g.)

β. strigositate densiore, bracteis parcè ciliatis integrisque.—Wall. Cat. Suppl. n. 118.

In ripa Irawaddi; in Promæ montibus, ad Pingee prope Melloon et Segaen, et in monte Taong Dong a. 1826; in Penang (G. Porter): e Natchpur, Gongachora et Patna, in Herb. Hamilt.—H. b. Calc. ex parte.—Vidi exempl. Herb. Roxburgh.—Var. β ad Pingee, d. 10 Jan.; Segaen in ripa Irawaddi, d. 7 Nov. a. 1826.

Differt a *Barleria laciniata*, cui similis, caule herbaceo, foliis minoribus in petiolum graciliorem decurrentibus, calycis laciniis majoribus bracteas longitudine et latitudine multò superantibus, etc. Caulis valdè ramosus, ramis oppositis. Spicæ, seu racemuli, pauciflori, densi, folio breviores. Corolla pollicaris, cœrulea venis obscurioribus. Capsula calyce brevior, brunnea, quod, ut reliqua in *Barleria laciniata*.—In β calycis laciniæ majores pallidè purpurascentes.

Adnot. *Barleria strigosa* Willd. abundè differt bracteis obtusis.

6. *Barleria Napalensis:* fruticosa, strigoso-hirsuta, caule corymboso-ramoso, foliis elliptico-oblongis utrinque acutis petiolatis, ramulorum obovatis minoribus, spicis axillaribus terminalibusque capitatis, bracteis linearibus patentibus ciliatis calycis laciniis majoribus oblongo-lanceolatis longissimè acuminatis serrato-ciliatis brevioribus. —*Barleria dichotoma* Wall. Cat. n. 2508 e et b, ex parte.

In Napalia a. 1821 legit Wallichius; in Horto botanico Calcuttensi sata (n. 2508 b.) perstitit.

Similis *Barleriæ dichotomæ* et *B. laciniatæ*, sed differt caule graciliore, fastigiatìm ramoso, multifloro; foliis minoribus, 3-pollicaribus, spicis apicalibus in capitula majora densiora congestis sæpèque magìs divisis, bracteis deorsùm pectinatìm divergentibus linearibus integerrimis simpliciter ciliatis, calycis laciniis majoribus, multò angustioribus, etc. Corollæ minores, amœnè cœruleæ.

7. *Barleria laciniata:* fruticulosa, hirsuto-flavescens, foliis ovato-oblongis in petiolum brevissimum desinentibus, floribus terminalibus subcapitatis, bracteis erectis lineari-lanceolatis rigidis calycisque laciniis majoribus oblongo-lanceolatis pectinato-ciliatis.—*Lepidagathis laciniata* Wall. Cat. n. 7144.

α. foliis majoribus acuminatis, bracteis angustioribus remotè pinnatifido-pectinatis laciniis setiformibus;

β. foliis minoribus, oblongis obovatove-oblongis, obtusis vel acutiusculis, bracteis latioribus lanceolatis, densiùs pectinato-ciliatis.

In Taong Dong montibus d. 25 Nov. a. 1826, cum fructu floreque uno imperfecto, var. α et β, uti videtur, promiscuè. Etiam ad Segaen in ripa Irawaddi die 7 Novembris a. 1826.

Caulis erectus, in α simplex. Folia $3\frac{1}{2}$—4 poll. longa, $1\frac{1}{2}$ lata. Corolla violacea, reticulata. Capsula depresso-tetragona. In β caulis ramosus, foliis pollice paullò longioribus.

2.) Floribus axillaribus et terminalibus subsessilibus fasciculatìm glomeratis vel solitariis.

8. *Barleria nuda:* herbacea, sparsè strigosa, ramis elongatis, foliis oblongo-ellipticis in petiolum decurrentibus acutis suprà sparsè strigosis, pedunculis axillaribus trifloris brevissimis terminalibusque capitatis, bracteis linearibus ciliatis patentibus calycis laciniis majoribus valdè inæqualibus rhombeo-oblongis subintegerrimis brevioribus.—*Barleria dichotoma* Wall. Cat. n. 2508 d. *Barleria cristata* Herb. Roxb. Wall. Cat. n. 2508 a.

In Sillet legit Fr. de Silva.—Vidi etiam exemplum Herb. Roxburghiani.

Differt a *Barleria dichotoma*, *B. Napalensi* et confinibus, maximèque a *Barleria cristata*, calycis laciniis margine ferè nudis nec ciliatis, multòque magìs inæqualibus. Corolla $1\frac{1}{2}$-pollicaris, cœrulea. Capsula oblonga, compressa, $\frac{1}{2}$-pollicaris.—Caulis trichotomus, ramis erectis. Folia 6—8 pollices longa, $1\frac{1}{2}$—2 lata. Inflorescentia *Barleriæ cristatæ*.

9. *Barleria ciliata:* herbacea, appresso-strigosa, foliis lanceolatis acutis brevipetiolatis, floribus axillaribus solitariis geminisve rariùs ternis subsessilibus, bracteis linearibus strictis dentato-ciliatis, calycis laciniis majoribus æqualibus ovato-oblongis confertìm ciliato-dentatis.—*Barleria ciliata* Wall. Cat. n. 2507 a et c. *Ruellia ciliata* Wall. *Barleria cristata var. β. foliis linearibus* Roth Nov. Pl. Sp. p. 315. *Barleria cristata*? Herb. Wight. Wall. Cat. n. 2506 g.

β. foliis brevioribus oblongis.—*Barleria cristata* Herb. Hamilt. Wall. Cat. n. 2508 b., ibid. n. 2506 h (*Barleria cristata* Hb. Heyn.). *Barleria cristata* Herb. Madr. Wall. Cat. n. 2506 e. *Barleria venulosa* "*an pilosa* Wall." Wight Herb. propr. n. 19.

γ. foliis lineari-subfalcatis, bracteis lanceolatis calycem æquantibus.—*Barleria strigosa* Herb. Madr. Wall. Cat. n. 2506 f. (sub *Barleria cristata*.)

Habitat in India or. (Heyne apud Roth).—Ex H. b. Calc.—Patria incerta, "puto Travancore" (Wight).

Differt evidentissimè a *Barleria cristata* caule graciliore humiliore ramuloso fruticuloso, foliis minoribus angustioribus, $3\frac{1}{2}$—4 poll. longis, 4—5 lin. latis, inflorescentiâ e floribus axillaribus sessilibus vel subsessilibus solitariis rariùs geminis ternisve, calycis laciniis majoribus æqualibus ex ovato-oblongis attenuato-acutis mucronatis dentibus setaceis patulis confertìm ciliatis strigosis hirtis nec glandulosis nec coloratis etc., corollæ longioris tubo graciliore. Tota undique confertìm lineolata et strigosa. Corolla pulchrè cœruleo-venosa.—In var. γ, habitus singularis, folia falcato-linearia, bracteæ lanceolatæ calycis longitudine, validiùs dentato-ciliatæ etc. An species distincta? Adest verò specimen, foliis bracteisque ad β accedens, quo intrante varietates hæ conjungi videntur.

10. *Barleria cristata* Linn.: herbacea, appresso-strigosa, foliis ellipticis utrinque attenuatis petiolatis, pedunculis axillaribus brevissimis paucifloris, bracteis lineari-subulatis ciliatis, calycis laciniis majoribus inæqualibus elliptico-oblongis parcè ciliato-serratis.—*Barleria cristata* Linn. Sp. Pl. p. 887. Willd. Sp. Pl. III. 1. p. 378. Spr. S. V. II. p. 827 n. 10. Osb. It. p. 225. t. 8. Roth Nov. Pl. Sp. p. 315. Don Fl. Nep. p. 119. Wall. Cat. n. 2506 b, c. Wight Herb. propr. n. 18. *Barleria dichotoma* Herb. Hamilt. Wall. Cat. n. 2508 c. *Melampyro cognata Maderaspatensis, quam ipse habuit.* Moris. Hist. III. p. 429. sect. 11. t. 23. f. 7.

Habitat in India or. Vidi exempl. H. b. Calc. In sepibus et nemorosis frequens, Negapatam etc. (Wight). Natchpur, d. 14 Octobris 1821. (Hamilt.)—Marlea in Turraya Napalensi a. 1820. (Wallich.).

Habitus *Barleriæ dichotomæ* Roxb. Caulis quadrangularis. Folia suprà et subtùs ad costas subhirsuta. Corolla pollicem longa, cœrulea, a Linneo optimè descripta.

b. *Staminibus perfectis duobus. Flores axillares vel spicati.*

11. *Barleria conspicua:* diandra, staminibus brevioribus antheris uncinatis, caule foliisque oblongo-cuneiformibus cuspidatis lineolato-strigosis, spicâ terminali elongatâ, bracteis bracteolis calycisque laciniis majoribus subæqualibus lanceolatis.—*Justicia conspicua* Wall. Cat. n. 2460.

In Penang a. 1822 lecta est.

Caulis herbaceus, erectus, aliquot pedum altitudine, simplex (?). Folia opposita, inferiora cum petiolo ferè 2-pollicari 10—12 poll. longa, 2—$2\frac{1}{2}$ p. lata, superiora non multò breviora, sed angustiora. Spica terminalis semipedalis et longior. Corolla $\frac{3}{4}$ poll. longa, cœrulea (?). (Fructus deest.)

12. *Barleria montana* Herb. Madr.; diandra, staminibus brevioribus anantheris squamiformibus, totâ glaberrimâ, foliis oblongo-ellipticis in petiolum attenuatis margine ciliolato-scabris, floribus axillaribus oppositis sessilibus, bracteolis linearibus, calycis laciniis majoribus æqualibus ellipticis herbaceis, superiore obtusâ.—*Barleria montana* (et *Barleria dianthera*) Herbar. Madraspat. *Ruellia*? *montana* Wall. Cat. n. 2391.

E montibus Travancoræ. (Herb. Madr.)

Soli *Barleriæ involucratæ* affinis, sed differt ab hac omnibusque reliquis staminibus brevioribus penitùs evanidis, quorum loco squamula parva triangularis mucrone setaceo residua.—Ramus lignosus. Folia 5-pollicaria, $1\frac{1}{2}$ pollicem lata. Calyx pollicaris, glaber. Corolla ferè 2-pollicaris. Capsula calycis laciniis brevioribus paullò longior. Semina magna.

13. *Barleria involucrata* R. et W.: subdiandra, herbacea, appresso-substrigosa, foliis ellipticis utrinque attenuatis, pedunculis axillaribus brevissimis trifloris, bracteolis lanceolatis integerrimis, calycis laciniis majoribus oblongo-lanceolatis obtusis integerrimis sericeis, inferiore subbifidâ.—*Barleria involucrata* R. et W. Wight Herb. propr. n. 17. *Barleria cœrulea* Wall. Cat. n. 2509 c. (Herb. Heyn.): *Barleria diandra* Herb. Heyn. Wall. l. c.

E Nilghiry (Wight).

Est e speciosissimis generis. Caulis erectus obtusè tetragonus. Folia 7—8 poll. longa, $2\frac{3}{4}$—3 p. lata; petiolo 1—$1\frac{1}{2}$-pollicari. Calycis laciniæ majores pollicares, nervoso-venosæ, violaceæ. Corolla cœrulea, 2—$2\frac{1}{2}$ poll. longa, pubescens. Capsula pollicaris, oblonga, compresso-tetragona, nitidè castanea.

Sect. II. LONGIFLORÆ. Tubus corollæ ratione limbi magìs minùsve protensus, in nonnullis longissimus. Flores in pedunculis brevibus angustè bracteatis axillares, solitarii vel terni, circa apices ramorum quandoque subspicati, cœrulei vel albi.—Fruticuli valdè ramosi, villosi vel tomentosi, inermes.

14. *Barleria paniculata* Hb. Madr.: fruticosa, hirsuta glandulosaque, foliis elliptico-oblongis longissimè acuminatis, pedunculis axillaribus cymoso-bi-trifidis subtrifloris, bracteolis lineari-lanceolatis reflexis, calycis laciniis majoribus oblongis reticulatis inæqualibus, superiore acutâ, inferiore breviore bifidâ, interioribus lineari-lanceolatis acuminatis subduplò brevioribus.—*Barleria paniculata* Herb. Madrasp. Wall. Cat. n. 2407. *Ruellia paniculata* Wall. l. c.

E Travancore (Hb. Madrasp.).

A *Barleria tomentosa* Rothii differt: caule setis rigidis, nec fasciculatis, hirsuto, glandulis quidem, ut in illa, immixtis viscido; foliis majoribus, magìs oblongis in acumen longissimum argutumque attenuatis, 4—5 poll. longis, $1\frac{1}{2}$ p. latis; calyce majore, 6—7 lin. longo etc. Reliqua plura, maximè inflorescentia, inter ambas conveniunt.

15. *Barleria tomentosa* Roth: fruticosa, pilis fasciculatis hirsuto-tomentosa glandulosaque, flavescens, foliis ellipticis utrinque acutis suprà strigosis, pedunculis axillaribus cymoso-bi-trifidis subtrifloris, bracteolis linearibus reflexis, calycis laciniis majoribus oblongo-ellipticis obtusis reticulatis, interioribus lanceolatis acutis subduplò brevioribus.—*Barleria tomentosa* Roth Nov. Pl. Sp. p. 314. Spr. S. V. II. p. 827. n. 11. *Barleria tomentosa* Hb. Madr. Wall. Cat. n. 2503 a,

ex parte. *Barleria hirsuta* Hb. Madr. Wall. Cat. n. 2503 b ex parte. *Barleria noctiflora* Wight Herb. propr. n. 11.

Frequens in aridis apricis versus maris litora provinciæ Tanjore apud Negapatam. Wight.—Herb. Madr.

Similis *Barleriæ longifloræ*, quâ admixtâ in Herb. Madr. occurrebat; differt foliis; tomento haud molli; pedunculis longitudine petioli vel longioribus tri- rariùs bifloris etc.; calyce; corollâ minore (cœruleo-reticulatâ). Capsula fusca, qualis in illa.

Adnot. Descriptio Rothiana, l. c., ad exemplum non benè conservatum facta esse videtur, caule vetustiore integumento jam exuto.

16. *Barleria acuminata* Wight: fruticosa, tomentosa, foliis ovatis cordatisve acutis basi obtusis subtùs incanis, pedunculis axillaribus cymoso-bi-trifidis subtrifloris, bracteolis lanceolato-linearibus reflexis, calycis laciniis majoribus oblongis interioribusque brevioribus lanceolatis acutis reticulatis:

α. foliis ovatis.—*Barleria acuminata* Wight Herb. Wall. Cat. n. 2503 c. *Barleria tomentosa* Herb. Madr. Wall. Cat. n. 2503 a ex parte. *Barleria buxifolia* H. b. Calc. Wall. Cat. n. 2504 d ex parte (cum *Barleria bispinosa*).

β. foliis cordatis vel subcordatis.—*Barleria racemosa* Herb. Madr. Wall. Cat. sub n. 2503 b.

Crescit α in collibus ad Maduram (Wight). Var. β in Travancore (Hb. Madr.); et in H. b. Calc. (nomine *B. buxifoliæ*).

Species benè distincta, ab altera parte *Barleriæ longifloræ*, ab altera *B. tomentosæ* conjunctior.—Caulis brachiatìm ramosus, incanus. Folia majora (cum petiolo) 3 poll. longa, $1\frac{1}{3}$ p. lata. Calycis laciniæ reticulatæ, majores $4\frac{1}{2}$ et 5 lin. longæ. Corolla poll. $1\frac{1}{2}$—$1\frac{3}{4}$ longa, pubescens, cœrulea, venosa.—Occurrunt calyces laciniis majoribus oblongo-linearibus, apice retusis.

17. *Barleria pilosa* Hb. Madr.: fruticosa, ramis junioribus foliisque ovatis basi obtusis patenti-pilosis, pedunculis axillaribus brevibus unifloris, bracteolis linearibus reflexis, calycis laciniis majoribus subæqualibus ovato-orbiculatis obtusis dentatis ciliatis, interioribus lineari-lanceolatis acutis duplò brevioribus.—*Barleria pilosa* Herb. Madrasp. et Herb. Heyn. Wall. Cat. n. 2502 a, b.

Crescit in Courtallum. (Herb. Madr. et Hb. Heyn.)

Fruticulus parvus, ramosus, foliis cum petiolo 3-lineari $1\frac{1}{2}$ poll. longis, $\frac{3}{4}$ poll. latis. Calyx semipollicaris, pilosus, ciliatus. Corolla vix pollicaris, cœrulea.

Habitu *Barleriæ acuminatæ* confinis, nec vero charactere.

18. *Barleria longiflora* Linn.: fruticosa, mollissimè tomentosa, incana, foliis ovatis basi obtusis, pedunculis axillaribus brevissimis unifloris, bracteolis linearibus reflexis, calycis laciniis majoribus æqualibus ovatis obtusis reticulatis, interioribus minimis ovatis setaceo-mucronatis.—*Barleria longiflora* Linn. Suppl. p. 290. Vahl Symb. i. p. 46. t. 16. Willd. Sp. Pl. iii. 1. p. 379. Spr. S. V. ii. p. 828. n. 13. Lam. Enc. Méth. i. p. 380. n. 7. Wall. Cat. n. 2501 a, b, c. Wight Herb. propr. n. 15.

Habitat ad montem St. Thomæ Malabariæ (Linn.). Frequens in collibus apud Vellore, Chingliput, των Circars, etc. (Wight.)—In Promæ montibus, a. 1826.—In Travancore. (Hb. Madr.)

Folia mollissimè tomentosa, (nec quidem sericea, ut Vahlii planta,) cum petiolo semipollicari $1\frac{1}{2}$—$1\frac{3}{4}$ poll. longa, $\frac{3}{4}$ p. lata; flores axillares (non terminales). Corolla (*mirabilis*,) bipollicaris, tubo pubescenti-tomentoso. Capsula semipollicaris, dissepimento completo.

Sect. III. Prionites. Bracteæ vario modo spinescentes, in multis abortivæ meras spinas exhibentes; calyces etiam apice spinosi, laciniis amplitudine minùs ac in reliquis diversis. Flores minùs conspicui, axillares, subsessiles, subverticillati vel solitarii. Pleræque species fruticosæ. Capsulæ in multis dispermæ.

19. *Barleria Prionitis* Linn.: fruticosa, bracteis bracteolisque sterilibus spinosis extrarameis in fasciculo quadrifido, bracteolis fertilibus subulato-spinescentibus, foliis elliptico-oblongis utrinque attenuatis glabris subtùs lineolatis margineque substrigilosis, floribus axillaribus verticillatis sessilibus, terminalibus spicatis, calycis laciniis majoribus ovatis spinoso-cuspidatis integerrimis glabris.—*Barleria Prionitis* Linn. Sp. Pl. p. 887. ed. Willd. iii. 1. p. 376. Spr. S. V. ii. p. 827. n. 5. Mill. Dict. n. 2. Lam. Enc. Méth. i. p. 379. n. 4. Vahl Symb. i. p. 46. Burm. Fl. Ind. p. 135. Blume Bydr. p. 805. Wall. Cat. n. 2510 a, c, d, e, f, g, h, i, k, l. Wight Herb. propr. n. 13. *Justicia appressa* Forsk. Descr. p. 6. *Barleria, foliis integerrimis, spinis lateralibus* Linn. Fl. Zeyl. p. 231. Roy. Lugdb. p. 291. n. 1. *Prionitis* Linn. H. Cliff. n. 486. *Adhatoda ad alas spinosa et florifera* Burm. Thes. Zeyl. p. 8. *Adhatoda malabarica tetracantha* Petiv. in Act. Soc. Reg. Lond. xx. n. 244. *Eryngium Zeylanicum luteum febrifugum* Mus. Zeyl. p. 43. *Planta indica spinosa amara antifebrilis* Mus. Zeyl. p. 62. *Lycium indicum, spinis quaternis ad foliorum singulorum exortum* Seba Thes. i. p. 21. t. 13. f. 1. Par. Bat. Prodr. p. 349.—*Coletta Veedla* Rheed. H. Mal. ix. p. 77. t. 41. —*Kathukarahiti* Zeylonensibus, *Tsje-Mulli*, et *Semul* Malabaris (Burm. Zeyl.).

Crescit frequens in nemorosis provinciarum Madras, Negapatam, Circars etc. (Wight l. c.)—Ad ripam Irawaddi ad Henzada, a. 1826. In Tavoy, d. 26 Sept. a. 1827. (Guil. Gomez.) In Courtallum (Hb. Madr. Wall. Cat. n. 2510 a.); ad Dindygul (Hb. Wight, Wall. c, d.); e Gongachara (Hb. Hamilt. Wall. l. c. t.); Hurdwar a. 1825 (Wall. l. c. g.); Sillet (F. D., Wall. l. c. h.); H. b. Calc. (Wall. l. c. i.)—Vidi et in Herb. Heyn. et Wight. In paludibus Bataviæ, præcipuè in hortis frequentissima (Blume).

Caulis teres, ramis oppositis. Folia 4—$5\frac{1}{2}$ poll. longa, $1\frac{1}{4}$—$1\frac{3}{4}$ p. lata, longè petiolata. Calyx 6—7 lin. longus. Corolla pubescens, lutea, $1\frac{1}{4}$ poll. longa, resupinata, bilabiata. Nectarium cupuliforme, patulum, 5-lobum. Capsula ad basin di-(tetra-?)sperma.

20. *Barleria Hystrix* Linn.: fruticosa, bracteolis sterilibus extrarameis geminis rariùsve quaternis spinosis divaricatis, foliis ellipticis ellipticove-oblongis spinuloso-mucronatis ad costas strigosis hirsutisve, floribus axillaribus sessilibus ternis superioribus spicatis, bracteolis propriis subulato-spinescentibus calycisque laciniis majoribus oblongo-lanceolatis acuminato-spinescentibus strigiloso-hirtis. —*Barleria Hystrix* Linn. Mant. p. 89. Willd. Sp. Pl. iii. 1. p. 376. Spr. S. V. ii. p. 827. Lam. Enc. Méth. i. p. 379. n. 3. *Hystrix frutex* Rumph. Amb. vii. p. 22. t. 13. *Melampyro cognata maderaspatana spinis horrida* Pluk. Alm. p. 243. t. 119. f. 5.

α. rotundifolia, foliis magìs glabris elliptico-subrotundis, floribus plerisque axillaribus.

β. oblongifolia, foliis angustioribus magìs hirsutis, floribus summis in spicam terminalem dispositis.—*Barleria Prionitis* Herb. Russell. Wall. Cat. n. 2510 b.—*Barleria*. Wall. Cat.: var. α et β.

In collibus Segaensibus alibique secus flumen Irawaddi in Promæ montibus, a. 1826.—Var. β vidi in Herb. Roxburgh.

Frutex incomtus, ramis flexuosis rigidis tetragonis. Folia 2 poll. longa, in α 1 poll lata; in β $\frac{3}{4}$ poll. longa. Axillaris inflorescentia spinosa, terminalis spica (var. β.) inermis. Calyx rigidus. Corolla $\frac{3}{4}$ poll. longa, purpurascens (?). Capsula basi ventricosa, disperma. Retinacula uncinata, gracilia.

21. *Barleria cuspidata* Hb. Madr.: fruticosa, bracteis bracteolisque spinosis fasciculatis, foliis lanceolatis oblongove-lanceolatis spinoso-mucronatis substrigilosis, floribus axillaribus subsolitariis, calycis laciniis integerrimis spinoso-acuminatis.—*Barleria cuspidata* Herb. Madr., Herb. Heyn. et Herb. Wight. Wall. Cat. n. 2499 a, b, c. *Barleria mucronata* Wight Herb. propr. n. 16. *Barleria noctiflora* Hb. Heyn. ex parte. Wall. Cat. n. 2496 c.

Crescit in aridis Indiæ or., prope Tanschaur (Tanjore). (Linn.)—In collibus provinciæ Maduræ, Dindygul etc. (Wight.)

Fruticulus spinis sæpè quàm maximè horrens, incomtus, ramis tetragonis. Folia poll. $1\frac{1}{4}$—$1\frac{1}{2}$ longa, $3\frac{1}{2}$—$4\frac{1}{2}$ lin. lata. Calyx coriaceo-chartaceus, 5 lin. longus, albidus. Corolla sesquipollicaris, pallidè cœrulea. Capsula disperma.

Adnot. A *Barleria Hystrice* haud facilis distinctu; sed constat bracteolarum spinescentium conformitate et foliorum formâ.

22. *Barleria noctiflora* Linn.: fruticosa, bracteolis spinosis ramosis axillaribus geminis, foliis obovato-oblongis spinoso-mucronatis strigoso-hirtis, floribus axillaribus sessilibus solitariis, calycis laciniis

majoribus ovatis reticulatis amplis inæqualibus, superiore maximâ spinoso-ciliatâ amplectente inferiorem integram denticulatamve ciliatam.—*Barleria noctiflora* Linn. Suppl. p. 290. Vahl. Symb. I. p. 46. Willd. Sp. Pl. III. 1. p. 377. Wall. Cat. n. 2496 b, (Hb. Madr.) c, (Hb. Heyn. ex parte) d, (ex Hb. Wight.). *Barleria mysurensis* Roth Nov. Pl. Sp. p. 313. *Justicia lanceata* Forsk. Descr. p. 6? *Barleria bispinosa* Vahl? Wight Herb. ppr. n. 10. *Barleria cristata* Lam. Enc. Méth. I. p. 380. n. 6, excl. synon.

Habitatio ignota (Wight). E Vendavor, (Wight in Wall. Cat. l. c.); e Courtallum et Zeylona (Hb. Madr.)

Frutex, a Rothio l. c., pro more, benè descriptus. Spinæ in hac specie bracteolæ sunt floris singuli axillaris, cui folium subjectum bracteæ loco inservit.—Quas bracteas Rothius appellat, calycis lacinias majores esse persuasum est illis *Barleriæ cristatæ* affiniumque omni numero similes.—Folia in nostro exemplo 9 lin., cum petiolo, longa et proximè ab apice 3 lin. lata.

Adnot. Vahlius, ut a *Barleria buxifolia* distingueret *B. noctifloram*, bracteas "glabras" dixit, "nec hirsutas," neque in hoc a vero aberravit, cum strigositatem calycis valdè scariosi pubescentiæ evidentiori calycis *Barleriæ buxifoliæ* opponeret. Rothius autem, hac in re justo scrupulosior, novo jam nomine eandem reddidit speciem.

23. *Barleria buxifolia* Linn.: fruticosa, patenti-hirsuta, bracteolis axillaribus geminis spinosis oppositis divaricatis alternis unifloris alternis sterilibus, foliis ellipticis basi acutis spinoso-mucronatis, calycis spinâ brevioris laciniis subconformibus strigosis, inferiore obtusâ emarginatâve.—*Barleria buxifolia* Linn. Sp. Pl. p. 887. Willd. Sp. Pl. III. 1. p. 377. Spr. S. V. II. p. 827. n. 1. Burm. Fl. Ind. p. 136? Roth Nov. Pl. Sp. p. 313. n. 1.! Wall. Cat. n. 2504 a ex parte, b, c, d ex parte. Wight Herb. propr. n. 9 ex parte.

Crescit in India orientali. (Linn., Roth.)—In montibus Courtallum. (Wight l. c.)—Vidi exempl. Herb. Heyn. (Wall. Cat. n. 2504 b.), Herb. Madr., H. b. Calc.

Fruticulus ramosus, teres. Folia caulina majora pollicaria, 5 lin. lata, ramea 4—5 lin. longa. Bracteolæ inferiores omnes steriles, spinosæ, $\frac{3}{4}$ poll. longæ. Calyx 3 lin. longus. Corolla pollicaris, pubescens, cœrulea.

Adnot. 1. Synonyma Linneana et discipulorum Linnei omnium dubia sunt ob spinas oppositas "solitarias" dictas, quæ in nostra axillares geminæ. Subesse autem errorem in his adnotationibus eo magìs probabile, cum non solùm spinæ axillares "solitariæ," quas tùm bractearum vices gerere supponendum esset, generis typo contrariæ forent, sed etiam facilè fieri potuerit, ut spinæ ex ejusdem folii angulo horizontaliter divergentes, oppositæ dicerentur, præsertìm ubi fors alterum par oppositarum deficeret.

Adnot. 2. Quod ad calycis structuram species hæc cum *Barleriis Prionite, Hystrice,* maximèque cum *noctiflora* convenit, longiùsque hac ex parte distat a *B. bispinosa,* cui habitu universo non absimilis videtur.

24. *Barleria bispinosa* Vahl: fruticosa, bracteolis spinosis axillaribus geminis divaricatis simplicibus unifloris, foliis obovatis spinoso-mucronatis strigoso-hirtis, floribus axillaribus sessilibus solitariis, calycis spinas æquantis laciniis majoribus æqualibus ellipticis mucronulatis ciliatis strigoso-hirsutissimis.—*Barleria bispinosa* Vahl. Symb. I. p. 46. Poir. Enc. Méth. Supp. I. p. 588. n. 11. Willd. Sp. Pl. III. 1. p. 377. Spr. S. V. II. p. 827. n. 6. *Barleria buxifolia* Lam. Enc. Méth. I. p. 380. n. 5. (excl. syn. Linn.) Wight Hrb. propr. n. 9 ex parte. Wall. Cat. n. 2504 a (Herb. Madr.) ex parte, et 2504 d (H. b. Calc.) ex parte. *Justicia bispinosa* Forsk. Descr. p. 6. Lam. Enc. Méth. I. p. 633. *Cara Schulli* Rheed. Hort. Mal. II. p. 91. t. 47.—"Linguâ Bramanâ *Rana Gondù,*" Rheed. l. c.

In montibus Courtallum. (Wight l. c.) Vidi in Herb. Madr. et ex H. b. Calc., nomine *B. buxifoliæ* cum *Barleria acuminata* promiscua.

Calycis foliola interiora exigua, triangulari-acuminata. Corolla cœrulea. Capsula ovali-oblonga, compresso-tetragona, acutiuscula, a basi ad medium tetrasperma.

Additam. Inserimus hìc, ob affinitatem, extraneum genus ex recentioribus:

LOPHOSTACHYS, *Pohl.*

Calyx profundè quadripartitus, laciniis superâ et inferâ latioribus, hàc sæpè bifidâ, lateralibus angustioribus (brevioribusque). Corolla tubulosa, bilabiata, labio superiore obtuso retusoque, inferiore trifido. Stamina quatuor didynama, exserta. Antheræ oblongæ, basi sagittatæ, bilocellatæ, locellis parallelis æqualibus muticis. Stigma obliquum, ovatum, transversìm emarginatum (bifidum?). Capsula ad basin usque bilocularis, ad inferiora tetrasperma, semina retinaculis subtensa.—Inflorescentia: spicæ, circa apices caulium aggregatæ, secundæ, compressæ; bracteis dorsalibus distichè incumbentibus sterilibus paullò latioribus; bracteis florigeris bracteolisque coloratis conformibus subæqualibus calyce colorato pallidiore brevioribus; corollis puberulis.

Adnot. Genus plantarum Brasilicarum, a cl. Pohlio (Plant. Brasil. II.) optimè expositum, et tribus speciebus enumeratis illustratum, cujus quartam satìsque distinctam speciem hìc adjiciam.

Lophostachys laxifolia N. ab E.: foliis longè petiolatis oblongis utrinque attenuatis cauleque glabris, bracteis lanceolatis acuminatis pilosis ciliatisque, calycis laciniis majoribus oblongis æqualibus.

In sylvis umbrosis Serræ *dos Orgãos,* prope Semidorio legit Beyrich.

Lophostachyi floribundæ (Pohl l. c. II. p. 95. t. 162) propinqua, differt: foliis confertis longioribus angustioribus in petiolum ferè pollicarem cuneatìm attenuatis pendulis acuminatis, bracteis calycis laciniis majoribus plùs duplò (nec $\frac{1}{3}$ tantùm) brevioribus, extùs hirtis (nec glabris) etc.; corollâ violaceâ, nec coccineâ.—Illa igitur definienda:

Lophostachys floribunda Pohl: foliis brevipetiolatis oblongis utrinque acutis subtùs pilosulis, bracteis oblongis acutis glabris ciliatis, calycis laciniis majoribus ovatis inæqualibus.

XXVII. AETHEILEMA *R. Br.*

Calyx quinquepartitus, laciniâ superiore maximâ, bracteiformi. Corolla bilabiata, labio superiore bifido, inferiore trifido;—vel subringens, labio superiore integro vel minutè bidentato. Stamina quatuor didynama, inclusa, per paria consociata; antheræ bilocellatæ, locellis parallelis contiguis. Capsula bilocularis, bivalvis, ad basin tetrasperma; lateribus membranaceis; dissepimento spontè in lamellas duas spermophoras secedente. Semina compressa.—Inflorescentia: spicæ vel racemuli axillares, foliosi. Bracteæ (pedunculos rectiùs diceres) in axillis foliorum alternæ, ideòque secundæ, 2—5-floræ, venosæ. Bracteolæ propriæ nullæ.

1. *Aetheilema reniforme:* caule herbaceo foliisque ovatis basi inæqualibus repandis pubescentibus, altero folio minore, bracteis reniformibus calycisque laciniâ superâ ovatâ membranaceis ciliatis.—*Ruellia reniformis* et *R. justicioides* Wall. MSS. Burman. *Ruellia imbricata* Vahl Symb. II. p. 73 (excl. synon. Forsk.) Willd. Sp. Pl. III. 1. p. 366. Wall. Cat. n. 2353 a—h. *Ruellia dorsiflora* Retz. Obs. VI. p. 31. *Ruellia imbricata* et *glomerata* Herb. Madr.

In montibus Promæ a. 1826; in jugo Taong Dong, d. 25 Novbr. a. 1826. (inflorescentiâ juvenili ante anthesin);—in Sillet Fr. de Silva; in Phuranbari cl. Hamilton, d. 8 Febr. a. 1809.—Vidi exempla Herbb. Madr., Hamilt., Heyn., Hort. b. Calc., Gomeziana e Sillet, etc.

Caulis tener, tetragonus, erectus, nodosus, foliis oppositis, altero 5—$5\frac{1}{2}$ poll. (cum petiolo) longo, altero vix 2-pollicari. Bractea floribus amplior, reniformi-orbiculata, 4 lineas longa, $5\frac{1}{2}$ lin. lata. Corolla vix calyce longior, pallida, glabra.—Memorabilis est hujus speciei inflorescentia. Scilicet flos unus cum binis bracteolis solitis ternos indicat flores; quorum duo laterales sunt abortivi. Bractea igitur communis reverà semper est triflora. In ista tres perficiuntur flores, bracteolæ autem desunt, quarum vices subeunt laciniæ calycum superiores amplificatæ. Horum autem florum duo illi, bracteolis respondentes, (bracteolares quos diceres,) etiam bracteæ cohærent communi; terminalis autem flos, per se quidem liber, ex axilla bracteæ bifloræ juxta axin egreditur. In inferioribus spicæ axillis florum numerus sæpè accedentibus aliis duobus floribus augetur.

Adnot. *Aetheilema imbricatum* (*Ruellia*—Forsk.) bracteis obliquis subrotundis, nec dilatatis, differt.

XXVIII. LEPIDAGATHIS, *Willd.*

Calyx quinquepartitus, laciniâ superiori maximâ, inferioribus duabus altiùs conjunctis, in nonnullis ferè in unam coalescentibus, (hinc etiam quadripartitus dicendus, laciniâ inferiori vario gradu bifidâ). Corolla bilabiata, labio superiore vel integro, vel bidentato, vel bifido, laciniis illis labii inferioris trifidi conformibus. Stamina quatuor didynama, inclusa, per paria consociata; antheræ bilocellatæ locellis parallelis contiguis. Capsula bilocularis, bivalvis, juxta basin tetrasperma; parietibus membranaceis; dissepimento rigidulo, adnato. Semina compressa. Inflorescentia: spica in ramulo brevi lateralis, per se brevis, simplex, vel glomerato-composita, secunda. Bracteæ communes, singulari sanè exemplo, in spiram simplicem positæ, e binis paribus ad ¼ solutis, alternis foliolis inæqualibus, spirâ autem inversâ. Flores sub singula bractea singuli, bibracteolati. Calycis lacinia superior maxima, tum duo inferiores minores, mediæ denique minimæ. Bracteæ et calycis laciniæ majores nervosæ. Corollæ parvæ.

A. Bracteæ magìs minùsve scariosæ, coloratæ, aristulatæ, nec verò nervoso-striatæ vel apice spinosæ.

* Spicæ terminales, vel axillares terminalesque.

1. *Lepidagathis fasciculata:* caule procumbente villoso glandulosoque, foliis oblongo-ovalibus utrinque acuminatis medio dentatis hirsutulis, spicis capituliformibus racemosis axillaribus, bracteis dorsalibus ellipticis acutis trinerviis glanduloso-pubescentibus.

α. foliis grossè dentatis.—*Ruellia fasciculata* Vahl Symb. III. p. 82. Willd. Sp. Pl. III. 1. p. 369. Pers. Synops. II. p. 177. n. 39. Retz. Obs. IV. p. 28. Lam. Enc. Méth. VI. p. 344. n. 25. Wall. Cat. n. 2394 a. et 2406.

β. foliorum dentibus minoribus.—*Ruellia viscosula* Wall. MSS. Ejusd. Cat. 2394 c.

Habitat *α* in nemorosis prope Thermas Tranquemallenses Zeylonæ. In Herb. Madrasp.—*β* ad ripas Attran et Saluen fluviorum a. 1827. Vidi etiam exemplum Herb. Roxburgh.

Caulis herbaceus, tetragonus, diffusus, ramis oppositis. Folia tenera, 3 poll. longa, ¾ poll. lata. Corolla 2½ lineas longa, purpureo-reticulata, pubescens. Capsula calycis longitudine, pyramidalis, dissepimento crasso.

2. *Lepidagathis mucronata:* caule herbaceo repente, foliis triangulari-ovatis acutiusculis basi subcuneatis repando-crenulatis glabriusculis, spicis ovatis axillaribus terminalibusque aggregatis, bracteis fertilibus bracteolisque subæqualibus calycibusque villoso-ciliatis, calycis laciniâ inferiore profundè bifidâ.—*Ruellia mucronata* Herb. Heyn. Wall. Cat. n. 2366 a.

Crescit in India or. (Heyne.)—Inter *Rungiæ* (*Justiciæ* L.) *repentis* exempla dedit cl. Wight.

Simillima *Lepidagathidi parvifloræ* Blum. Bydr., a qua imprimis differt pubescentiâ glandulosâ bracteas calycesque vestiente aut deficiente omninò aut rarissimâ, et formâ foliorum.—Caulis pubescens et subtomentosus. Folia parva, cum petiolo 1½-pollicaria. Spicæ densè imbricatæ, 3—4 lin. longæ, ovatæ, circa caulis apicem capitato-confertæ. Corollæ bilineares, pallidè purpureæ.

Hìc loci inserenda:

Lepidagathis parviflora Blum.: caule herbaceo basi repente foliisque triangulari-ovatis productisve obtusis basi subtruncatis repandis glabris, spicis axillaribus (?) terminalibusque geminis oblongis, bracteis sterilibus bracteolisque subæqualibus calycibusque villoso-ciliatis glandulosisque, calycis laciniâ inferiore profundè bifidâ.—*Lepidagathis parviflora* Blume Bydr. p. 801.

Crescit in calcareis Kuripan, et circa Bataviam et Tjikao (Blume); in Sarzagona (Hænke). Vidi exempl. Herb. Hænkeani.

Est tenera, gracilis, similis quidem *Lepidagathidi mucronatæ*, sed ex alieno habitu, nitore, foliorum figura propria, bractearum ad bracteolas inversâ proportione, glandulis spicæ facilè dignoscenda. Caulis semipedalis, pedalis. Folia inferiora et superiora angustiora, 1½ poll. longa, 5—8 lin. ad basin lata; media 10—11 lin. lata, neque longiora. Spicæ terminales in nostris duæ, 3 et 4—5 poll. longæ. Corolla calyce paullò longior, pallida, venulosa, glabra. Capsula 2-linearis, pyramidata.

3. *Lepidagathis scariosa:* caule fruticoso foliisque ovatis repandis subtùs pulverulento-tomentosis, spicis terminalibus capitatis involucratis, bracteis omnibus membranaceis calycisque quadripartiti laciniis breviaristatis, harum inferiore profundè bifidâ acuminatâ. *Lepidagathis lanata* Wall. Wight Herb. propr. n. 41. *Ruellia scariosa* Wall. Cat. n. 2354 a, b. *Ruelliæ sp.* Herb. Madr. Wall. l. c. sub n. 2354 a.

In Travancore. Hb. Madr.—Vidi exempla Hb. Wight. et Hb. Madr.—In convallibus nemorosis provinciarum Maduræ et Dindygul. (Wight.)

Tomentum setularum fasciculatarum detersibilium primùm albicans, in exemplis diutiùs asservatis ferrugineum.—Rami trichotomi, erecti. Folia opposita, cum petiolo ½-pollicari 1—1¾ poll. longa, ½—¾ p. lata. Spicæ 4—5, terminales, capitulum hemisphæricum magnitudine nucis juglandis construunt, involucratum. Corollæ semipollicares, pallidæ, villosæ.

Adnot. Inter reliquas plurimùm accedit *Lepidagathidi dulci*, sed differt hæcce integumento, spicis axillaribus etc.—Habitus nostræ Clinopodii vel Origani.

4. *Lepidagathis hyalina:* caule suffruticoso, foliis ovato-ellipticis oblongisve utrinque attenuatis repandis ad costas subtùs scabris, spicis ovatis axillaribus terminalibusque aggregatis, bracteis ovato-oblongis bracteolisque lanceolatis calyceque aristatis villoso-ciliatis basi hyalinis, calyce quadripartito, laciniâ inferiore profundè bifidâ:

α. caulee recto glabriusculo.—*Ruellia? disticha α* et *β*. Herb. Hamilt. Wall. Cat. n. 2365 c, h, i. (sub *Ruellia dependente*).

β. *dependens:* caule prostrato, ad genicula seriatìm radiculoso, pubescente, foliis suprà magìs minusvè hirsutis.—*Ruellia dependens* Wall. Cat. n. 2365 b, d, e, f.

In Promæ montibus a. 1826. Inter Chappedong et Amherst a. 1827. In Goalpara d. 31 Octobris a. 1800. et Dimlæ d. 16 Mart. 1809. cl. Hamilton.

Amœna, *Lepidagathidis mucronatæ* similitudine, sed major. Caulis (in *α*) erectus, quadrangulus (in *β*, casu fortè, ad terram dejectus maximè geniculatus). Folia caulina 6—7 poll. longa, 3 poll. lata. Spicæ ferè ut in *L. mucronata*, sed majores. Calyx basi hyalinus, 3 lin. longus. Corolla vix 3 lin. longa, glabra, pallida.

5. *Lepidagathis ustulata:* caule suffruticoso (humili) basi repente, foliis ovalibus oblongisve scabris, infimis minoribus spathulatis, spicis ovatis terminalibus subagglomeratis, bracteis bracteolis calycisque subquinquepartiti laciniis majoribus lanceolatis acuminato-aristatis subæqualibus, alternis hyalinis coloratisque.—*Ruellia? ustulata* Herb. Hamilt. Wall. Cat. n. 2366 b. (sub *Ruellia mucronata.*) *Ruellia mucronata* Wall. Cat. n. 2366 b, e.

In Gurrukpur, die 13 Apr. 1814, et in Sukanaghur legit cl. Hamilton. In Hindustania (Wall.).

Forma minor *Lepidagathidis hyalinæ* videri posset, sed differt constanter: caule humili digitali vel spithamæo, foliis parvis, infimis minimis 2—3 lin. longis spathulatis, spicis terminalibus, calycis laciniis latioribus, longiùs (quemadmodum et bracteis) acuminatis infimisque profundiùs discretis etc.—Variat ramis humilioribus confertis magìsque elongatis.

6. *Lepidagathis aristata:* caule suffruticoso (?) erecto, foliis ovato-oblongis utrinque attenuatis repandis subtùs pubescenti-scabris, spicis conicis, axillaribus oppositis, terminalibus capitatis, bracteis dorsalibus ciliatis lanceolatis bracteolisque ellipticis hyalinis longè aristatis, calycis ciliati laciniâ infimâ profundè bipartitâ.—Wall. Cat. 7163.

In ripa Attran fluminis, a. 1826.

Quoad caulem et folia accedit *L. hyalinæ*, diversa verò foliis subtùs totâ paginâ pubescenti-scabris et inflorescentiâ. Terminales spicæ 8—10 in capitulum grande congestæ, majores 1—1½-pollicares, conicæ, secundæ, aliæ dimidiò minores, purpureæ. Bracteæ dorsales sterilesque 5 lin. longæ, acumine aristiformi, inferior fertilis breviùs acuminata, membranacea. Bracteolæ 4½—5 lin. longæ. Calyx 4 lin. longus. Corolla 2 linearum, ut et calyx, qui compresso-tetragonus.

7. *Lepidagathis semiherbacea:* caule suffruticoso foliisque lanceolatis repandis basi longè attenuatis glabris, spicis axillaribus oppositis terminalibus ternis ovatis, bracteis bracteolisque subæqualibus oblongo-lanceolatis ciliatis membranaceis, bracteolarum exteriore herbaceâ, calycis ciliati laciniâ inferiore lato-lineari bifidâ:

α. caule erecto, calycis laciniâ inferiore apice bifidâ. Wall. Cat. n. 7164.

β. caule prostrato radicante, foliis longioribus (5—7 pollicum) lanceolato-linearibus, calycis laciniâ inferiore bipartitâ.—*Ruellia dependens var. angustifolia, an distincta species?* Wall. Cat. n. 2365 g.

In Chappedong et in ripa Attran fluvii, a. 1827.—β in Napalia inferiore, ad Hetaundam lecta d. 13 Decembr. a. 1820.

Caulis gracilis, ramosus, glaber nec lineolatus, a projecturis subquadrangulus. Folia 5—6 poll. longa, ¾—1 poll. lata. Spicæ variæ longitudinis, 2 lin.—1½ pollicum. Bracteæ et calyx 4 linearum; corolla 3½ lin., pallida. Capsula calyce brevior.

Adnot. Var. β calyce, foliis, caule, accedit ad *Lepidagathidem Hamiltonianam;* at specimen est incompletum, floribus nondum evolutis.

8. *Lepidagathis trinervis:* caule suffruticoso diffuso foliisque lanceolato-linearibus trinervibus glabris, spicis capitato-congestis axillaribus ciliatis, bracteis conformibus ovatis bracteolisque interioribus lanceolato-cuneiformibus membranaceis calycisque quinquepartiti laciniis aristatis.—*Barleria? trinervis* Wall. Cat. n. 2500 a, b. *Ruellia? trinervis* Herb. Hamilt. (Wall. l. c. a.)

In Saseram, d. 6 Jan. 1813, legit cl. Hamilton; in Lohargong (J. F. Royle.)

Parva, diffusa, ramis gracilibus ramosis, foliis 1—1½-pollicaribus sessilibus. Spicæ sessiles, rarò simplices, ½—¾ poll. longæ, ovato-conicæ. Corolla 3 lin. longa, alba, pubescens. Capsula 2-linearis, ovato-pyramidalis, compressa.

* * Spicæ axillares et subradicales.

9. *Lepidagathis Hamiltoniana:* caule suffruticoso diffuso, foliis linearibus elongatis glabris margine scabris, spicis circa radicem conglomeratis, bracteis ex ovato-oblongis bracteolisque lanceolatis subulato-acuminatis longè ciliatis, calycis quadripartiti laciniis acuminatis, inferiore latiore bifidâ.—*Lepidagathis Hamiltoniana* Wall. Cat. n. 2422. *Ruellia? radicalis* Herb. Hamilt.

In Nuni, die 27 Novembr. a. 1810, cl. Hamiltonius legit.

Proximè affinis *Lepidagathidi cristatæ*, sed sanè distincta species, differt: caule elongato flagellari, infernè aphyllo, supernè folioso, foliis 5—6 poll. longis, 2 lineas latis, subfalcatis; spicis juxta basin pluribus in spicam ovatam ovi magnitudine compactis, caulinis nullis; maximèque bractearum florumque magnitudine ferè duplâ diversâque structurâ. Bracteæ 5—6 lin. longæ. Corolla 3-linearis, pallida intùs fulvo-maculata. (Fructus deest.)

B. Bracteæ magìs minùsve herbaceæ, nervoso-striatæ, in multis apice spinescentes.

* Spicæ axillares et radicales.

10. *Lepidagathis rupestris* Wight: caule suffruticoso diffuso foliisque oblongis pubescenti-scabris, spicis capitato-congestis circa radicem conglomeratis lanatis, bracteis bracteolisque subconformibus ovato-orbiculatis ellipticisque submucronatis, calycis quadripartiti laciniis submucronatis, inferiore ad medium bifidâ.—*Lepidagathis rupestris* Wight Herb. prop. n. 40 b.

Inter rupes in collibus apud Ongole rariùs. (Wight l. c.)

Species pulchra, *L. cristatæ* similitudine. Folia ¾ poll. longa, 3 lin. lata. Corolla omninò ut in *Lepidagathide cristata*, albida, extùs densiùs pubescens.

11. *Lepidagathis cristata* Willd.: caule suffruticoso diffuso foliisque lineari-lanceolatis glabris, spicis capitato-congestis circa radicem conglomeratis, in ramis axillaribus lanuginosis, bracteis bracteolisque conformibus oblongis mucronatis, calycis quadripartiti laciniis mucronato-aristulatis inferiore bifidâ.—*Lepidagathis cristata* Willd. Sp. Pl. III. 1. p. 400. Poir. Enc. Méth. Suppl. III. p. 333. Spr. S. V. II. p. 827. Wall. Cat. n. 2421 a ex parte.

β. spicis omnibus circa radices congestis.—Wight Herb. propr. n. 40 a. Wall. Cat. n. 2421 b. *Selago acaulis* Hb. Russell. Wall. Cat. n. 2421 c.

In apricis glareosis provinciæ Madras etc. frequens (Wight). Vidi exempla Hb. Madr., cum *Dicliptera bupleuroide* mixta.

Helianthemi vulgaris facie. Rami projecturis angulati. Folia ¾—1 poll. longa, 2 lin. lata. Spicæ 2—3 in capitulum magnitudine nucis avellanæ subglobosum compactæ, sed pleræque circa basin ramorum radicalium in globum ovi gallinacei, immò pugni, magnitudinis coacervatæ. Calyx 3½ lin. longus. Corolla 4 lin. longa, pubescens, alba.

* * Spicæ axillares.

12. *Lepidagathis striata:* caule herbaceo foliisque oblongis utrinque acuminatis subrepandis glabris, spicis in ramulo axillari brevi aggregatis capituliformibus, bracteis dorsalibus ellipticis quinque-septemnervibus bracteolisque cum calycibus quinquepartitis nervosis glanduloso-hirtis.—Wall. Cat. n. 7165.

In montibus Promæ a. 1826.

Caulis procumbens, adscendens, projecturis acutis quadrangulus, flexuosus. Folia 5—6 poll. longa, poll. 1¼ lata, in pare æqualia. Spicæ in ramulis 2—3 lin. longis duæ vel tres, ½-pollicares, aggregatæ. Calyx inæqualis. Corolla 4 lin. longa, pubescens, pallida, immaculata.

Adnot. *Lepidagathis Javanica* Blume Bydr. p. 801. similis esse videtur, nisi eadem; sed l. c. neque nervorum br
actealium neque proportionis partium mentio facta.

13. *Lepidagathis purpuricaulis:* caule herbaceo foliisque lanceolatis longissimè acuminatis remotè crenatis, glabris, spicis conicis simplicibus subcompositisve axillaribus, bracteis nervosis calycibusque hirsutissimis, calycis quinquepartiti laciniis inferis trinervibus.—*Ruellia purpuricaulis* Wall. MSS. Burm. Ej. Cat. n. 2366 g. *Ruellia? Nilbutia* Herb. Hamilt. Wall. Cat. n. 2366 d. (sub *Ruellia mucronata*). *Ruellia tenuis* Herb. Hamilt. Wall. Cat. n. 2366 c. (sub *Ruellia mucronata*). *Ruellia mucronata* Wall. Cat. n. 2366 c, d, f.

In montium jugo Taong Dong dicto d. 26 Nov. a. 1826;—in Burhi Simar d. 8 Mart. 1811, et in Sivapure d. 7 Feb. 1814, legit cl. Hamilton; in Hurdwar a. 1825 (Wallichius).

Ramus virgatus flexuosus, projecturis subquadrangulus, purpureus. Folia 4 poll. longa, 8—10 lin. lata. Spicæ ½—¾ poll. longæ. Rhachis saturatè purpurea. Bracteæ circiter 3 lin. longæ. Corolla 5 lin. longa, glabra.

14. *Lepidagathis falcata:* caule fruticoso foliisque ovatis obtusis glabris, spicis axillaribus falcato-recurvatis; bracteis sterilibus fertilibusque secundis scariosis nervosis oblongo-acuminatis subæqualibus, calyce quadrifido, laciniâ superâ inferâque oblongis æqualibus, infera apice bifidâ.—*Ruellia scariosa* Wall. MSS. Ejusd. Cat. n. 7166.

In Taong Dong a. 1826.

Memorabilis propter calycem Barleriæ, inflorescentiæ Lepidagathidis conjunctum. Corolla deest. Ad habitum ideò huic generi adscripsi.—Lignum album. Folia 2½ poll. longa, 1¼—1½ poll. lata, petiolo alato. Spicæ solitariæ, circiter 2-pollicares, sessiles. Bracteæ ½-pollicares, spiratìm positæ. Bracteolæ lineari-lanceolatæ, 4 lin. longæ. Calyx semipollicaris.—Capsula 3 lin. longa, lanceolata, compressa, acuminata, straminea, basi brevissimo spatio clausâ, hinc bilocularis, dissepimento adnato persistente in laminas non secedente. Retinacula compresso-carinata, subulata.

Adnot. Evidentissimus est transitus hujus speciei ad *Lepidagathidem dulcem* calycis structurâ.

15. *Lepidagathis dulcis:* caule herbaceo adscendente, foliis ovato-ellipticis in petiolum cuneiformem attenuatis suprà hirtulis subtùs ad costas scabris, spicis axillaribus oppositis sessilibus, bracteis dorsalibus herbaceis falcatis, fertilibus propriisque membranaceis, calycis quinquepartiti laciniis duabus inferis dimidiato-ellipticis.—*Ruellia dulcis* Wall. MSS. Ejusd. Cat. n. 7167.

In montibus Promæ a. 1826.

Caulis pedalis, teres. Folia cum petiolo pollicari 5—6 poll. longa, 1¾—2 poll. lata. Spicæ oppositæ inæquales, altera 1½, altera vix ¾—½ poll. longa, superiores subglobosæ, crassæ, speciosæ, conicæ, a dorso visæ pectinatæ. Bracteæ inferæ fertiles 4 lin. longæ ; bracteolæ ferè collaterales, 5-lineares. Calyx ½-pollicaris. Corolla ½-pollicaris.

16. *Lepidagathis cuspidata:* caule fruticoso foliisque ovato-ellipticis utrinque attenuatis pubescentibus, spicis terminalibus basi compositis densis glanduloso-pubescentibus, bracteis trinervibus bracteolis calycibusque spinoso-mucronatis, bracteis sterilibus angustioribus, calycis quinquepartiti laciniâ dorsali ovatâ inferioribusque ovalibus trinervibus.—*Ruellia cuspidata* Herb. Heyn. Wall. Cat. n. 2405 a, b.

In Hurdwar legit a. 1825 Wallich.

Ramus, epidermide candidâ, mollissimè pubescens, dichotomè ramosus. Folia ramulorum ½—¾ poll. longa, in spinam acuminata ; sursùm sensìm conferta latioraque in spicam terminalem 2—3-pollicarem oblongo-lanceolatam confluunt. Bracteæ herbaceæ, imbricatæ, 4 lin. longæ. Corollæ 4-lineares. Capsula compresso-pyramidalis.

17. *Lepidagathis spinosa* Wight: caule fruticoso ramosissimo, foliis (parvis) sessilibus obovato-cuneiformibus integerrimis spinoso-mucronatis glabris, spicis subsolitariis axillaribus, bracteis bracteolis calycisque quinquepartiti laciniis majoribus conformibus subæqualibus acuminato-spinosis rigidulis subciliatis.—*Lepidagathis spinosa* Wight Herb. *Barleria ? spinosa* Wall. Cat. n. 2497.

Habitatio incerta.

Fruticulus spithamæus, densissimè ramosus, rigidus, ligno duro albido, trunco teretiusculo cinereo. Folia approximata, 3—3½ lin. longa. Spicæ circiter semipollicares ; bracteis etc. 5½—6 lin. longis. (Corolla deest.) Capsula 2½ lin. longa, pyramidalis, compressa.

18. *Lepidagathis pungens:* caule fruticoso ramosissimo, foliis (parvis) sessilibus spinoso-dentatis, spicis binis ternisve capitato-congestis axillaribus villosis, bracteis dorsalibus ovatis, fertilibusque bracteolisque oblongo-lanceolatis rigidis apice spinosis, calycis quadripartiti laciniis mucronato-spinulosis, inferiori apice bifidâ. *Barleria? pungens* Wall. Cat. n. 2498 a, b. *Acanthus pungens* Herb. Madr. Wall. Cat. l. c. b.

β. foliis tomentosis aristisque spicarum brevioribus.—*Lepidagathis axillaris* Wight Herb. propr. n. 42.

In apricis campestribus provinciæ Tenevilly versus promontorium Comorìn dictum. (Wight.)—Exempli Hb. Madr. locus natalis non indicatus.

Frutex spithamæus—pedalis, a basi ferè dichotomo-ramosissimus, rigidus, tomento canescens. Folia 4—9 lin. longa. Bracteæ arctè imbricatæ, chartaceæ, griseæ apiceve purpurascentes, lanatæ ; omnes ut calyces 4—5 lin. longæ. Corolla 4 lin. longa, limbo albo, fusco-punctato. Ovarium ovatum.

XXIX. NEURACANTHUS[*].

Calyx bipartitus, labio superiore trifido, inferiore bifido. Corolla bilabiata, subringens, labio superiore bidentato, inferiore profundè trifido. Stamina perfecta quatuor didynama, in tubo recondita ; filamenta brevissima ; antheræ parvæ, bilocellatæ, locellis obliquis ab apice filamenti penduli deorsùm divergentibus, superiore cristato-piloso. Antherarum breviorum staminum locellus inferior minor, incompletus. Stigma laterale, oblongum. Capsula compresso-tetragona, a basi tetrasperma. Dissepimentum completum, adnatum. Semina ovato-subrotunda, compressa, lævia, retinaculis subtensa.—Inflorescentia : spicæ axillares, bracteis nervosis quadrifariis. Flores solitarii, parvi. Calyces ciliato-plumulosi.

Neuracanthus tetragonostachyus.—*Ruellia tetragonostachya* Wall. MSS. Ejusd. Cat. n. 7168.

In Promæ montibus et in jugo Taong Dong a. 1826.

Caulis fruticosus, teres, bifariàm scaber, ramosus, foliis oppositis æqualibus, 5—5½ poll. longis, 1¾ poll. latis, elliptico-oblongis cuspidato-acuminatis in petiolum attenuatis venoso-reticulatis. Spicæ axillares, sessiles, oppositæ, inæquales, altera 1—1½-pollicaris, altera dimidiò, sæpè duplò brevior, tetragonæ. Bracteæ 3—3½ lin. longæ, latè ovatæ, crassè quinquenerves. Bracteolæ calyce (3-lineari) duplò breviores, ciliatæ. Corolla circiter 3 lin. longa, pallida, pubescens. Capsula calycis persistentis longitudine, acuta. Retinacula uncinata.

Subtribus IV. ACANTHEÆ.

XXX. BLEPHARIS *Juss.*

Calyx quadripartitus, inæqualis, laciniâ inferâ et superâ latioribus, inferâ bidentatâ, basi bracteatus. Corolla unilabiata, labio trifido, fauce cartilagineâ ; margine supero tridenticulato. Stamina quatuor subdidynama. Antheræ superæ unilocellatæ, locello margine ciliato barbato ; inferæ obliquè bilocellatæ, septo communi inter labia, dum clausa, latente ; superiorum staminum anthera filamento adnata, inferiorum in filamento obtuso lateralis, substipitata vel sessilis. Capsula bilocularis, ad basin di-(tetra-)sperma. Dissepimentum adnatum. Semina retinaculis subtensa.—Inflorescentia : spica bracteata, imbricata ; bracteis inferioribus vacuis sæpè aristato-ciliatis. Flos terminalis bibracteolatus, bracteolis bracteis conformibus vel difformibus.—Herbæ repentes, hispidæ, foliis verticillatis inæqualibus.

1. *Blepharis molluginifolia* Juss. : bracteolis cymbiformibus setaceo-acuminatis.—*Blepharis molluginifolia* Juss. Pers. Syn. II. p. 180. n. 8. Spr. S. V. II. p. 820. n. 8. Wall. Cat. n. 2514 a, b, c, d. Wight Herb. ppr. n. 2. et Wall. Cat. n. 2514 b. ex Herb. Hamilt.—*Acanthus molluginifolius* Juss. Poir. Enc. Méth. Suppl. I. p. 90. n. 18. *Blepharis repens* Roth Nov. Pl. Sp. p. 321. *Acanthus repens* Vahl Symb. II. p. 76. Willd. Sp. Pl. III. 1. p. 399. Herb. Madr. (Wall. Cat. n. 2514 d.) Herb. Heyn. Wall. l. c. n. 2514 c.

Habitat in India orientali. (Vahl.) Vidi exempla Heyneana. In aridis nemorosis, apud Madras, et in *Circars*. (Wight.) In Monghir (Herb. Hamilt.).

Descriptio Rothiana, præclara. Setoso-hispida, repens. Folia majora semipollicaria omnia ex oblongo sublinearia in margine densissimè serrulato-scabra, opposita dimidio minora. Spicæ axillares, alternæ, sessiles, grani triticei magnitudine, lanceolatæ. Corolla ad labii apicem 4½ lin. longa, alba, tubo brevi ovato-cylindraceo 10-nervi.

2. *Blepharis boerhaaviæfolia* Juss. : bracteolis cuneiformibus planis apice setaceo-ciliatis.

α. ciliaris.—*Acanthus ciliaris* Garcin. Burm. Fl. Ind. p. 139. t. 42. f. 2. (excl. Synon. Plukenet.) *Blepharis Boerhaaviæfolia* Juss. Pers. Synops. Pl. II. p. 180. (excl. synon. *Acanthi maderaspatensis* Linn. et Pluck., ad *β.* citando.) Wall. Cat. n. 2513 b. (Hbb. Hamilt. et Heyn.) c. (Hb. Wight.) e regno Burmanno. Wight. Herb. propr. n. 3. *Blepharis maderaspatensis var. β.* Roth Nov. Pl. Sp. p. 320. *Blepharis procumbens* Heyne apud Roth.

β. Maderaspatensis: foliis oblongis, dentibus paullò crebrioribus evidentiùs mucronatis, in aliis integerrimis.—*Acanthus maderaspatensis* Linn. S. V. p. 485. Willd. Sp. Pl. III. 1. p. 400. Poir. Enc. Méth. Suppl. p. 89. n. 15. *Blepharis maderaspatensis var. α.* Roth Nov. Pl. Sp. p. 320. *Blepharis boerhaaviæfolia* Hb. Hamilt. ex H. b. Calc. *Melampyro affinis tetraphylla gangetica, floribus inter folia sparsis,* Pluck. Alm. t. 99. f. 3. *Adhatoda maderaspatensis, calyce barbato, foliis subtùs villosis,* Pet. Mus. p. 23.

Crescit in Zeylona insula (Burmann). In India or. (Juss. Pers.). In sepibus et nemorosis provinciarum Tanjore, Madras et Chingliput frequens (Wight). In Ava et Segaen d. 13 Octobr. 1826 ; in Promæ montibus, ad Irawaddi fluvii ripas, d. 22 Sept. a. 1826.—Var. *β* ex H. b. Calc. vidi in Herbb. Hamilt. et Wallich.

Pubescens, vel pubescenti-scabra. Caulis repens. Folia quaterna, ovato-rhombea oblongave, repando-subdentata dentibus muticis vel subtilissimè mucronulatis, folia 1½-pollicaria, brevipetiolata opposita minora. Spicæ unifloræ, ¾ poll. longæ, illis præcedentis plùs duplò majores, sessiles vel pedunculatæ. Corolla ¾ poll. longa, purpurascens, maculâ labii inferioris oblongâ sulphureâ. Capsula 3 lin. longa, ovata, compressa, dissepimentis ramentaceo-spongiosis.

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[*] A bracteis *nervosis* nomen deduxi.

XXXI. Acanthus *Juss.*

Calyx quadripartitus, laciniis superâ et inferâ multò majoribus, hâc apice bifidâ. Corolla unilabiata, labio trifido vel trilobo, basi quandoque auriculato, margine supero integerrimo. Stamina quatuor subdidynama; filamenta infera apice inflexa; antheræ omnes unilocellatæ, ciliatæ, superiores erectæ, inferiores in filamenti unco transversæ. Capsula bilocularis, compressa, a basi ad medium tetrasperma, lateribus chartaceis. Dissepimentum ligneum, unisulcum, a valvis recedens, apice dilatatum obliquè truncatum. Semina ovata, compressa, tuberculata. Retinacula crassa, obtusa, rectiuscula.—Inflorescentia: spica terminalis aphylla; flores tribracteati, bracteâ communi setaceo-ciliatâ.

1. *Acanthus leucostachyus* Wall.; foliis oblongis subrepandis spinoso-dentatis, costis subtùs valdè prominulis cauleque ramentaceo-tomentosis, labii laciniis emarginatis.—*Acanthus leucostachyus* Wall. Cat. n. 2512.

In montibus provinciæ Sillet. (F. D.)—A. 1830 legit Guil. Gomez.

Caulis (in nostro exemplo vix pedalis) simplex, tetragonus. Folia 3 parium, 3—5½ poll. longa, ¾—1½ poll. lata: inferiora minora. Spica terminalis, 2½ poll. longa, penitùs pubescenti-scabra. Corollæ ¾ poll. longæ, albæ, pubescentes.

XXXII. Dilivaria *Juss.*

Calyx quadripartitus, laciniis integris, superiori et inferiori paullò majoribus integris basi callosis. Corolla unilabiata, labio trilobo palato convexo incrassato, margine supero integerrimo. Stamina quatuor subdidynama. Antheræ omnes unilocellatæ, margine barbato-ciliatæ, adnatæ. Filamenta conformia, recta. Capsula bilocularis, compressa, a basi ad medium tetrasperma, lateribus chartaceis. Dissepimentum ligneum, unisulcum, a valvis secedens, apice dilatatum obliquè truncatum. Semina ovata, compressa, tuberculata. Retinacula crassa, obtusa, rectiuscula.—Inflorescentia: spicæ aphyllæ. Flores bracteis, plerique etiam bracteolis mediocribus integerrimis conformibus instructi, speciosi. Folia plerumque spinosa.

1. *Dilivaria ilicifolia* Juss.: fruticosa, spinosa aut subinermis, glabra, foliis ellipticis sinuato-dentatis spinosis undatis, spicâ multiflorâ, floribus bracteatis bracteolatisque.—*Dilivaria ilicifolia* Juss. Pers. Synops. ii. p. 179. Heyne Herb. Wall. Cat. n. 2511 d. *Acanthus ilicifolius* Blume Bydr. p. 806.—Linn. Sp. Pl. p. 892. Willd. Sp. Pl. iii. 1. p. 398. Spr. S. V. ii. p. 819. Mill. Dict. n. 5. Poir. Enc. Méth. Suppl. i. p. 88. n. 7. Osb. It. p. 92. Burm. Fl. Ind. p. 138. R. Br. Prodr. Fl. N. Holl. I. p. 480. ed. N. ab E. p. 336. Wall. Cat. n. 2511. b, d, e. Wight Herb. propr. n. 1.—*Acanthus malabaricus, Agrifolii folio* Petiv. Sicc. n. 10. Gazoph. t. 94. f. 15. *Aquifolii facie arbor malabarica, Acanthi flore albo cucullato*, Pluk. Phytogr. p. 38. Alm. t. 264. f. 4. *Frutex indicus spinosus, foliis agrifolii, siliquâ geminatâ brevi*, Raj. Hist. p. 1766. *Carduus aquaticus, seu Indorum Dilivaria*, Kamel Luzon. p. 6. n. 16. *Painà schúlli* Rheed. H. Mal. ii. p. 93. t. 48.

Habitat in Indiæ locis maritimis.—In salsis uliginosis provinciæ Tanjore frequens (Wight).—H. b. Calc. (Wall. l. c. n. 2511 b. In Penang a. 1822. (Wall. n. 2511 e.)—Vidi in Herb. Heyn. (Wall. 2511 d.)—In terris alluvialibus paludosis Javæ; floret omni ferè tempore (Blume).

Nomen Javanicum: *Galli galli.* (Blume.)

Folia omninò ferè *Ilicis Aquifolii.* Corolla *Acanthi mollis*, alba. Capsula poll. 1¼—1½ longa, nitidè castanea. Semina magna. Dissepimentum rubrum, lignosum.

2. *Dilivaria ebracteata* Juss.: fruticosa, inermis, glabra, foliis oblongis basi cuneiformibus repando-dentatis spinosis (integrisve), spicâ multiflorâ, floribus ebracteolatis. *Dilivaria ebracteata* Juss. Pers. Synops. ii. p. 179. *Acanthus ebracteatus* Vahl Symb. ii. p. 75. t. 40. Willd. Sp. Pl. iii. 1. p. 399. Spr. S. V. ii. p. 819. Poir. Enc. Méth. Suppl. i. p. 88. n. 8. Wall. Cat. n. 7159. *Acanthus ilicifolius* Lour. Fl. Cochinch. ed. Willd. ii. p. 455? *Aquifolium indicum* Rumph. Herb. Amb. vi. p. 163. t. 71. f. 1.

Habitat in India orientali (et Cochinchina). Ad Chappedong flumen, a. 1827.

Differt a *Dilivaria ilicifolia* foliis multò longioribus angustioribus, basi angustatis minùs undatis etc.; bracteolarum defectu;—reliquis maximè congruit. Flores paullò minores videbantur.

3. *Dilivaria volubilis*: fruticosa, inermis, glabra, volubilis, foliis obovato-oblongis integerrimis, floribus ebracteolatis.—*Acanthus volubilis* Wall. Pl. As. Rar. ii. p. 56. t. 172. *Acanthus ebracteatus*, Blume Bydr. p. 806. *Aquifolium indicum femina* Rumph. Amb. vi. p. 163. t. 72. f. 2.

Crescit in æstuariis Gangetis et fluminum Martabania, ubi floret sub pluviis. In Java et insulis Moluccis, (Rumph.)

Subtribus V. Justicieæ.

Div. 1. Ruellioideæ.

Justiciæ specc., Linn. *Justiciæ, Ruelliæ, Harrachiæ* specc. Auctorum.

XXXIII. Crossandra *Salisb.*

Harrachia Jacq.

Calyx quinquepartitus, laciniis latis, interioribus brevioribus. Corolla tubo longo, limbo plano quinquefido, supernè ad tubum usque diviso. Stamina quatuor didynama, in tubo latentia. Antheræ unilocellatæ, hirtæ, margine ciliatæ. Capsula compressa, bivalvis, a basi tetrasperma. Dissepimentum adnatum. Inflorescentia: spica terminalis tetragona, bracteis oppositis latis herbaceis, propriis angustis membranaceis.

1. *Crossandra infundibuliformis*: caule pubescenti-hirto, foliis verticillato-ternis quaternisve ovato-oblongis utrinque punctulato-asperis scabrisque, bracteis ciliatis, spicis longè pedunculatis:

α. pedunculo folia æquante, lævi.—*Crossandra undulæfolia* Ait. Hort. Kew. iv. p. 54. Link. En. H. Ber. ii. p. 134. n. 1515. *Crossandra nutans* Wight Herb. propr. n. 36. *Justicia infundibuliformis* Linn. Sp. Pl. p. 21. N. Burm. Fl. Ind. p. 7. Vahl Symb. ii. p. 17. Lam. Enc. Méth. i. p. 626. n. 3. *Ruellia infundibuliformis* Andr. Rep. n. 542. Wall. Cat. n. 2364 b, f, g. *Harrachia speciosa* Jacq. Ecl. t. 21. Blume Bydr. p. 793. Spr. S. V. ii. p. 826. *Manja-Kurini* Rheed. Fl. Mal. ix. p. 121. t. 62.

β. pedunculo folia superante, scabro.—*Crossandra pilosa* Wight Hb. propr. n. 35. *Crossandra undulæfolia* Hb. Hamilt. Wall. Cat. n. 2364 e. *Ruellia infundibuliformis* Wall. Cat. n. 2364 c, d, e; g (ex parte), i. H. b. Calc.

Var. *α* vidi in Herb. Wight. et in Hb. Madr., loco natali non indicato.—Var. *β* in convallibus nemorosis provinciæ Maduræ (Wight); in Noacote Napaliæ legit Wallichius a. 1821; in Singapore Prince. In H. b. Calc. (Wallich.) Vidi etiam exempla Herbb. Russelliani, Heyneani, Hamiltoniani.

Corolla quasi unilabiata, pulchrè miniata. Bracteæ striatæ, ciliatæ.

2. *Crossandra axillaris:* caule novello scabriusculo, foliis quaternis oblongis glabris læviusculis, spicis axillaribus subsessilibus alternis folio brevioribus, bracteis pubescenti-scabris margine nudis.—*Crossandra infundibuliformis* Wight Herb. propr. n. 34.

In convallibus nemorosis Maduræ provinciæ (Wight).

Characteribus dictis distincta, ut et sequens.

3. *Crossandra oppositifolia* Wight: glabra, foliis approximato-quaternis oblongo-lanceolatis lævibus, bracteis ciliatis, spicis subsessilibus terminali-aggregatis.—*Crossandra oppositifolia* Wight Herb. propr. n. 36 bis.

E montibus Courtallum (Wight).

XXXIV. Endopogon*.

Justiciæ et *Ruelliæ* spp., Wall., Wight.

Calyx æqualis, quinquepartitus. Corolla (in alabastro apice convoluto-mucronata,) bilabiata, fauce inflata: labio superiore lato bifido, intùs in canalem decurrentem utrinque barbatum stylum recipiente; inferiore trifido. Stamina duo. Antherarum locelli duo, paralleli, æquales, mutici. Capsula depresso-quadrangularis, suturâ prominulâ, bilocularis, proximè a basi tetrasperma. Dissepimentum adnatum, superiora versus angustum et incompletum. Semina depresso-lenticularia, mucronulata, utrinque juxta hilum areâ scutatâ insculpta.—Inflorescentia: spica: bracteæ communes oppositæ imbricatæ latiusculæ, propriæ angustæ. Corollæ speciosæ (an lutescentes?).

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* Ab ενδον *intùs*, et πωγων *barba*, quia labium superius intùs barbâ est præditum.

1. *Endopogon Amomum:* bracteis oblongo-lanceolatis setaceo-cuspidatis imbricatis glanduloso-pubescentibus, foliis latè ovatis utrinque acutissimis glabris dentatis.—*Ruellia sesamoides* Wall. Cat. n. 2408 c, et b ad partem minimam. *Ruellia.* Wight Herb. propr. n. 28 bis. *Justicia venosa* Hb. Wight. in Wall. Cat. l. c.

Locus natalis non notatus est.

Caulis herbaceus, 2—3-pedalis, erectus, profundè quadrangulus, foliis speciosis, 5 poll. longis, 2—3 poll. latis. Spicæ 1—3 p. longæ, axillares simplices, terminalis decomposita. Corolla speciosa, ¾ poll. longa, fulva (an cœrulea?), tubo subincurvo.

2. *Endopogon hypoleucus:* bracteis setaceo-cuspidatis pubescenti-glandulosis, foliis latè ovatis crenatis subtùs cano-tomentosis:

α. foliis suprà glabris.—*Ruellia sesamoides* Wall. Cat. n. 2408 b (ex parte).

β. foliis suprà hirsutis, tomentulo subtùs magis fugace, bracteis calycibusque glabriusculis.—*Justicia sesamoides* Herb. Madr. Wall. Cat. n. 2408 a (ex parte). *Ruellia sesamoides,* Wall. Cat. n. 2408 a ex parte.

Ex Herb. Wightiano.—Var. β vidi in Herb. Madr.

Ab *Endopogone Amomo,* cujus fortassè varietas, differt foliorum tomento, nunquam penitùs evanescente, costis foliorum paucioribus, 5—6, quæ in illo 7—9. Var. β integumento quidem distincta, sed in uno eodemque ramulo utriusque modi integumenti (α et β) vestigia inveni.

Adnot. Non nisi sub primo intuitu propinqua videtur *Stenosiphonio subsericeo,* cui folia quidem persimilia sunt, sed citò glabrescentia, sed floris structura alia omninò, corolla regularis ferè, in alabastro obtusa, etc.

3. *Endopogon consanguineus:* bracteis ovato-ellipticis acutis hirsuto-glandulosis, foliis ovato-ellipticis utrinque attenuatis glabris. —*Ruellia secunda* Wight Herb. propr. n. 27.

In montibus Dindygul, Courtallum. (Wight l. c.)

Differt a præcedente caule laxiore, foliis angustioribus acumine obtuso, spicarum hirsutie glandulosâ, bracteis multò minùs acuminatis, floribus minoribus. Spicæ inferiores solitariæ, mediæ bifidæ, supremæ geminæ; terminales nullæ in nostris. Capsula longitudine calycis, cuneiformis; dissepimentum supernè incompletum angustius.

XXXV. LOXANTHUS[*].

Calyx quinquepartitus, æqualis, brevis. Corolla tubulosa, incurva, coriacea, limbo obliquè quinquelobo, laciniâ inferiore paullò profundiùs divisâ. Stamina fertilia duo; antheræ bilocellatæ locellis parallelis; stamina sterilia parva ad basin fertilium, subulata. Capsula a basi polysperma. Semina retinaculis suffulta.—Inflorescentia: thyrsus terminalis, pedunculis bifidis minutè bracteolatis ut in PHLOGACANTHO.

Loxanthus Gomezii.—Wall. Cat. n. 7170.

In montibus provinciæ Sillet legit Guil. Gomez. a. 1829.

Frutex speciosus, ramis tetragonis, foliis oblongo-cuneiformibus integerrimis glabris, 10 poll. et ultrà longis, 3 p. latis, petiolis pollicaribus, thyrso terminali denso tomentoso 3—4-pollicari. Corollæ ¾ poll. longæ, densè tomentosæ, luteæ (?). Ovarium oblongum, compressiusculum.

Adnot. ERANTHEMI esset generis, quod ad characteres in universum attinet, sed corollæ forma, et densitas omninò repugnant tali conjunctioni; neque alia congruunt. A PHLOGACANTHO differt corollæ formâ et filamentis accessoriis sterilibus.

XXXVI. PHLOGACANTHUS[†].

Justiciæ spp., Roxb., Ham., Wall.

Calyx quinquepartitus, æqualis. Corolla obliquè bilabiata, labio superiore latiore et longiore bifido, inferiore trifido; tubo trigono. Stamina duo. Antheræ bilocellatæ, locellis parallelis contiguis, demùm hastato-divergentibus muticis. Staminum duorum sterilium rudimenta exilia in quibusdam observantur. Stigma simplex, acutum. Capsula compressa, bilocularis, loculis superiùs tetraspermis. Retinacula seminibus subjecta.—Inflorescentia: racemus terminalis vel lateralis simplex vel triplex, spiciformis, floribus verticillato-quaternis, bracteâ bracteolisque binis conformibus angustis elongatis. Corolla speciosa, lutea aut fulva.—Folia suprà minutè papulosa.

1. *Phlogacanthus curviflorus:* caule erecto quadrangulari strigulosо-tomentoso, foliis amplis ellipticis utrinque acutis repando-dentatis glabris, corollâ elongatâ.—*Justicia curviflora* Wall. Pl. As. Rar. II. p. 9. t. 112. Cat. n. 2429 a, b.

Lectus in montibus Sillet a Wallichio,—et a G. Gomez. a. 1829, maximam partem defloratus. In Hortum botanicum Calcuttensem a Fr. DeSilva translatus est. Floret versus finem anni. Vidi exempla culta et spontanea.

Speciosi generis planta speciosissima. Caulis crassus. Folia ad 1½-pedalia, 6 poll. lata, petiolo longo. Thyrsi in caule et ramis terminales e dichotomia, 4—8 poll. longi, in vegetioribus pedales. Corolla 2-pollicaris, pubescenti-tomentosa, e luteo rubicunda, crassiuscula.

2. *Phlogacanthus tubiflorus:* caule erecto tetragono supernè pubescenti-scabro, foliis amplis ellipticis utrinque acutis subrepandis subtùs pubescentibus, racemo thyrsoideo, corollâ brevi.—*Justicia tubiflora* Hamilt. Herb., Wall. Cat. n. 2428.

In montibus Camrupæ ad Goalparam (i. e. Goyalpara in Rungpur) d. 12 Novembris a. 1808 legit cl. Hamilton.

Partibus inferioribus similis præcedenti differt caule non strigiloso, sed infernè glabriusculo superiore versùs bifariàm pubescenti-hirtulo, foliis ratione longitudinis latioribus, (ubi pedalia cum petiolo, 4½—5 poll. latis,) floribus parvis, 4—5 lin. longis, in thyrsum terminalem densum (4-pollicarem) confertis. Omnes inflorescentiæ partes pubescenti-tomentosæ, glandulosæ.

3. *Phlogacanthus thyrsiflorus:* caule erecto, novello quadriquetro, foliis oblongo-cuneiformibus integerrimis glabris, racemo elongato. —*Justicia thyrsiflora* Roxb. Fl. Ind. ed. Car. et Wall. I. p. 116. R. et Sch. Mant. I. p. 131. Willd. Sp. Pl. ed. 2. I. p. 370. Spr. S. V. I. p. 73. Wall. Cat. n. 2430 a—g.

Crescit in Bengalia interiore, unde a cl. Careyo in Hortum b. Calcuttensem illatus est; floret Januario et Februario mensibus, fructumque maturat Martio et Aprili. In sylvis Mithilæ et Magadhæ (veterum regnorum in Bengalia: Tirhut etc.),—Malung d. 18 Jan. a. 1809 legit Hamilton; in montibus provinciæ Sillet F. D. In Sillet a. 1829 legit G. Gomez; in montibus Napaliæ a. 1820 Wallichius; in Oude a. 1825 idem. Vidi exempla culta ex H. b. Calc. et spontanea e Sillet, e Malung, ex Oude allata.

4. *Phlogacanthus guttatus:* caule basi inclinato dein erecto quadrangulari, foliis oblongis repando-crenatis glabris, racemo abbreviato.—*Justicia guttata* Wall. Pl. As. Rar. I. p. 24. t. 28. Cat. n. 2431. (2430 errore calami).

Incolit montes Pundua, Bengalæ orientali confines, florens initio anni. In horto botanico Calcuttensi floret mensibus Decembri et Januario. (Wallich.) In montibus provinciæ Sillet legit F. D.

Fruticulus humilis, pedalis et bipedalis, lignosus. Folia opposita, 5½—6 poll. longa, 1½ p. lata, subcoriacea. Racemulus terminalis, 1½—3 poll. longus. Corolla 4—6 lin. longa, subcoriacea, densè glanduloso-pubescens, alba, purpureo-maculata. Stamina duo sterilia inter labia inserta.

5. *Phlogacanthus asperulus:* caule novello quadriquetro angulis denticulato-exasperatis, foliis elliptico-oblongis longè acuminatis glabris.—*Justicia asperula* Wall. MSS. Ejusd. Cat. n. 7171. *Justicia hedyotidifolia* Wall., Herb. Heyn. Wall. Cat. n. 2450 ex parte[*]).

Ex Herbario Heyneano et ex H. b. Calc. e Sillet.

A *Phl. thyrsifloro* et *curvifloro* differt: caule ad angulos asperrimo, foliis minoribus, 3½ poll. longis, 1 p. latis, acuminatis, basi acutis sed minimè cuneiformibus; spicâ terminali pollicari vel sesquipollicari, solitariâ, ad basin foliosâ et interruptâ, interdùm divisâ; bracteis brevibus; corollis circiter 3—4 lin. longis, (luteis vel aurantiacis).

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[*] A λοξος *obliquus,* et ανθος *flos,* ob corollæ limbum obliquum.

[†] A φλοξ *flamma,* et ακανθος, propter florum luteorum spicam longam.

[*] Altera hujus nominis et numeri planta est *Rostellaria hedyotidifolia.*

XXXVII. Cryptophragmium[*].

Justiciæ spp., Heyne, Wall. cet.

Calyx quinquepartitus, æqualis. Corolla bilabiata vel ringens, tubo recto. Stamina duo, lateri infero tubi inserta. Antheræ bilocellatæ, anticè maximè contiguæ rimâque simplici dehiscentes, loculi fundo septo communi bilamellato diviso. Capsula tetragona, bilocularis, septo adnato, polysperma, a basi seminifera. Semina retinaculis sustensa.—Inflorescentia: racemi vel spicæ secundæ, vel glomerato-subverticillatæ. Bracteæ et bracteolæ parvæ, subæquales.

1. *Cryptophragmium venustum:* spicâ terminali compositâ brachiatâ, foliis ellipticis in petiolum alatè decurrentibus denticulatis scabris, corollâ calyce multò longiore.—*Justicia venusta* Wall. Pl. As. Rar. I. p. 53. t. 66. Cat. n. 2470 a, b.

Crescit in Sillet, ubi Guil. Gomez pridem, iterùmque a. 1830 legit; —in H. b. Calc.

Folia cum petiolo longo ferè pedalia, in culta planta $1\frac{1}{2}$-pedalia, acuminata. Inflorescentiæ rami decussatìm oppositi, patentes. Flores ex opposito glomerulati; bracteâ subulatâ, bracteolis exiguis. Corolla ferè pollicaris, calyce multoties longior, pubescens, purpureo-violacea. Capsula circiter semipollicaris, angusta, columnaris. Retinacula subulata, patula.

2. *Cryptophragmium serrulatum:* spicis axillaribus trichotomis ramis secundifloris foliisque ovatis acutis in petiolum contractis crenato-dentatis pubescenti-scabris, capsulâ calyce triplò longiore.—*Justicia serrulata* Herb. Heyn. Wall. Cat. n. 2452 a. *Justiciæ* sp. Herb. Madr. Wall. Cat. n. 2452 b.

Locus natalis non speciatìm notatus est. Vidi exempla Herbariorum Madraspatani et Heyneani.

Folia inferiora cum petiolo $2\frac{1}{2}$ pollicum 8—9 poll. longa, $3\frac{1}{2}$ p. lata; superiora minora. Spicæ petiolum ferè superantes, ramis oppositis. Corolla $4\frac{1}{2}$—5 lin. longa, glanduloso-pubescens, pallidè purpurea (?). Capsula 7—8 lin. longa.

3. *Cryptophragmium canescens:* spicis axillaribus in terminalem transeuntibus bifidis secundifloris glanduloso-hirtis, foliis ovatis acutiusculis basi cuneiformibus repandis pubescentibus, capsulâ calyce setaceo duplò longiore. *Justicia serrulata?* Herbb. Wight. et Heyn. Wall. Cat. n. 2452 c, d.

Vidi exempla Herbb. Wightiani et Heyneani. Locus natalis speciatìm non notatus est.

Confine *Cr. serrulato;* differt pube tenui densâ molli subtomentosâ canescente omnium partium, foliis paullò minoribus obtusis vel parùm acutis, non dentatis sed obiter repandis; spicis minoribus bifidis canescentibus etc.; pube bractearum cet. longiore patente (ut in illa cæterùm glandulosa); calycis laciniis angustioribus; capsulâ 4-lineari, (plerumque 12-spermâ). Corollæ structura et magnitudo non differunt.

4. *Cryptophragmium cordifolium:* racemis axillaribus secundis in terminalem compositum abeuntibus, floribus distantibus, foliis ovatis acutis suprà punctulato-scabris, inferioribus subcordatis.—*Justicia cordifolia* Herb. Heyn. Wall. Cat. n. 2482 a, b, c. *Justiciæ sp., paniculatæ affinis* Herb. Wight propr. Wall. Cat. n. 2482 c. *Justicia clandestina* Herb. Russell. Wall. Cat. n. 2482 b.

Crescit in Courtallum. (Wight l. c.) Vidi exempla Herbb. Heyn., Wight., et Russelliani.

Caules plures ex una radice, pedales et altiores, virgatìm ramosissimi, ramis oppositis spicifloris. Folia inferiora cum petiolo pollicari 4—5 poll. longa, $1\frac{3}{4}$—2 lata, subcordata vel ovata, superiora $1\frac{1}{2}$-pollicaria, basi in petiolum decurrentia. Rami patentes, 4—6 poll. longi, a medio 4—8-flori. Bracteæ vix $\frac{1}{2}$ lineâ longiores; pedicelli lineares. Corolla $2\frac{1}{2}$—3 lin. longa, purpurascens (?). Capsula $\frac{3}{4}$ poll. longa, lanceolata, compresso-quadrangula. Semina 8 in quovis loculo. Retinacula ovato-lanceolata, plana, stipitata.

Div. 2. Gendarusseæ.

XXXVIII. Rostellaria[*].

Justiciæ spp., Linn., Roxb., Wall., al.

Calyx quadri-quinquepartitus, laciniis duabus superioribus sæpè minoribus, quintâ, ubi adest, superâ minimâ. Corolla bilabiata; labium superius planum, truncato-bidentatum; inferius trilobum. Stamina duo; connectivum apice incrassatum; locelli duo obliquè positi: inferior basi sterilis in rostrum productus, superior minor. Capsula tetrasperma, a basi seminifera. Retinacula brevia lamelliformia.—Inflorescentia: spica, terminalis et axillaris. Flores decussatìm solitarii, bibracteati, bracteis laciniis calycis similibus iisdemque alternis. Plantæ parvæ, pleræque herbaceæ.

1. *Rostellaria rotundifolia:* caule repente foliisque orbiculatis hirsutissimis, calycis laciniis bracteisque calyce paullò brevioribus ex ovato cuspidatis margine latè membranaceis hirto-ciliatis.—*Justicia rotundifolia* Wall. Cat. n. 2489 ex parte[†]. *Justicia mollissima* Wall. Cat. n. 2445 ex parte. *Justicia procumbens* Herb. Madr. Wall. Cat. n. 2441 a ex parte.

β. foliis superioribus ovatis vel ellipticis angustioribus, labio subtùs scabro.—*Justicia Vahlii β. imberbis* Roth Nov. Pl. Sp. p. 15. fide exempli Herb. Heyn. *Justicia procumbens* Vahl En. I. p. 141. excl. synon. Wall. Cat. n. 2441 i.

Ex Herb. Wight., loco natali speciatìm non adnotato.—E Napalia cum *Rostellaria mollissima* attulit cl. Wallich.—In Travancore (Herb. Madr.).—Var. *β* in Pagamew, a. 1826.

Similis quidem *Rostellariæ procumbentis* varietatis *β* exemplis latifoliis, attamen diversa: caulibus e radice crassa ramosa pluribus vix digitalibus repentibus patenti-hirsutis; foliis (4—6 lin. longis) ferè regulariter orbiculatis, longiùs petiolatis; spicis minoribus, bracteis cet. latioribus brevioribus pilis brevioribus densè vestitis, etc. Capsula candida longitudine calycis.

2. *Rostellaria hedyotidifolia:* caule erecto a basi divaricato-ramoso foliisque ovatis subcrenatis acutis scabriusculis, spicis terminalibus infraapicalique-axillaribus brevibus basi interruptis, calycis quadripartiti laciniis lanceolatis margine membranaceis glabris, bracteis calycem æquantibus, bracteolis calyce brevioribus, utrisque setaceis. —*Justicia hedyotidifolia* Wall. Cat. n. 2450 ex parte[‡].

Ex Herb. Heyneano, loco natali non speciatìm notato.

Spithamæa, annua, caule satìs firmo, foliis caulinis (mediis) pollice paullò longioribus, rameis brevioribus. Spicæ cum pedunculo suo ferè pollicares, ipsæ $\frac{1}{2}$ poll. longæ, paucifloræ, apice cernuæ. Corolla 2-linearis, glabra, pallidè purpurea. Capsula lanceolata, tetragona.

3. *Rostellaria diffusa:* caule procumbente diffuso foliisque lanceolatis ellipticis subrotundisve lineolatis glabris parcève pilosulis, spicis compressis gracilibus, calycis laciniis lanceolatis margine membranaceis subtilissimè ciliatis, bracteis consimilibus calyce brevioribus.

α. foliis ellipticis vel subrotundis.—*Justicia diffusa* Willd. Sp. Pl. I. p. 87. R. et Sch. S. V. I. p. 154. Mant. I. p. 137. Roth Nov. Pl. Sp. p. 14? Wall. Cat. n. 2444 a, b, c. Herb. Madr., l. c. n. 2441 a ex parte, c ex parte. *Justicia procumbens δ thymifolia* R. et Sch. S. V. I. p. 154. *Justicia procumbens* var. *α* Herb. Hamilt. Wall. Cat. n. 2441 c ex parte.—Wight Herb. n. 63.

β. foliis linearibus vel lineari-lanceolatis.—*Justicia procumbens* Wall. Cat. n. 2441 e ex parte.—Wight Hb. propr. n. 60 ex parte.

Crescit in pascuis humidis. (Wight.) In Monghir, a. 1820. Wall., Hamilt. In Travancore. Herb. Madr.—Var. *β* in Prome (Wall. Cat. Suppl. n. 125.)—Var. *α* vidi etiam in Herbb. Heyn. et Wight.

Staturâ maximè variabilis, foliis ($\frac{1}{2}$—2 poll. longis) *Thymi* vel *Parietariæ Judaicæ*. Corolla sequentis, sed minor, carnea.

Adnot. Calycis foliolorum (in Rothii planta "absque margine membranaceo visibili") margines dicti maximè conspicui in nostra.

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[*] A *κρυπτος occultus*, et *φραγμος septum*, propter dissepimentum antheræ occultum.

[*] Nomen a locello inferiori antherarum *rostrato* petitum.

[†] Alterum hujus nominis exemplum *Diclipteræ* est *bupleuroidis*, statu incompleto, ante anthesin decerptum.

[‡] Altera ejusdem numeri planta est *Phlogacanthus asperulus*.

—*Justicia procumbens* Herb. Roxb. exempla *J. procumbentis* et *diffusæ* promiscua ostendit.

4. *Rostellaria procumbens:* caule procumbente adscendenteve foliisque ex ovato-lanceolatis ciliatis hirtis, spicis subtetragonis, calycibus quadri-quinquepartitis bracteisque lanceolato-linearibus æqualibus hirsuto-ciliatis.

α. caule procumbente, spicis sæpè brevioribus, foliis oblongo-lanceolatis oblongisve.—*Justicia procumbens* Linn. Fl. Zeyl. p. 19. Lam. Enc. Méth. I. p. 629. n. 21. Ill. Gen. n. 125. Poir. Enc. Méth. Suppl. II. p. 100. n. 46. Willd. Sp. Pl. ed. 2. I. p. 393. R. et Sch. S. V. I. p. 154. excl. var. δ.; Mant. I. p. 136. Roxb. Fl. Ind. ed. Car. et Wall. I. p. 133. Roth. N. Pl. Sp. p. 16. observ. 788. Wall. Cat. n. 2441 d, h. *Justicia hirtella* Wall. Cat. n. 2448. (ex Herb. Wight.) Suppl. n. 159. Wight. Herb. propr. n. 65 et 66;—n. 70. nomine *Justiciæ paniculatæ.*

α*. caule erecto; reliquis ut in α.—*Justicia quinquangularis* Wall. Cat. n. 2444 d. *Bungum mas* Rumph. Herb. Amb. VI. p. 52. t. 22. f. 2?

β. caule ut in α; foliis ovatis vel subrotundis.—*Justicia procumbens* Wall. Cat. n. 2441 e ex parte. (*J. procumbens* Herb. Roxb.) Herb. propr. n. 61 α, β, γ; n. 62 (*J. procumbens*) et 64 (*J. diffusa*).

γ. Variat etiam, cum forma foliorum ut in β, spicis elongatis angustioribus bracteisque calyce dimidiò brevioribus; quæ exempla ferè media sunt inter *Rostellariam procumbentem* et *diffusam.* Hujus loci exempla e Prome allata, n. 2444 e.

δ *angustifolia:* foliis lineari-lanceolatis ex parte.—*Justicia procumbens* Blume Bydr. p. 788.

δ*. bracteis calycibusque parùm ciliatis.—Wight. Herb. propr. ex parte.

ε. caule simplici erecto.—*Justicia simplex* Don Fl. Nep. p. 118. Willd. Sp. Pl. ed. 2. I. p. 376.

Crescit var. α frequentissima in pascuis Costæ Coromandelianæ floretque omni tempore, (Roxburgh, Wight). Tavoy, a. 1827, (Guil. Gomez). In Promæ montibus, a. 1821. Var. β in oryzetis, (Roxburgh); in pascuis locisque humidis circa lacus et oryzeta, (Wight); Var. δ. in Promæ montibus, ⊙.

Differentia essentialis consistit in omnium partium, maximèque calycis et bractearum pube rigidulâ setiformi articulatâ, in caule sæpè retrospectante; tum calycis laciniis lineari-lanceolatis acuminatis rigidis, basi magìs minùsve membranaceis etc. Spica $\frac{1}{4}$—$1\frac{1}{2}$ poll. longa. Corolla rosea.—Varietates α et β vix limites ostendunt, tametsi fines extremi maximè dissimiles videantur.

5. *Rostellaria crinita:* caule procumbente adscendente trichotomo pubescenti-cano, foliis ellipticis ovatisve hirtis, spicis terminalibus sessilibus brevibus, calycibus quadripartitis apice bracteisque setaceis æqualibus patenti-hirsutissimis:

α. foliis ellipticis utrinque acutis longè petiolatis;

β. foliis ovatis basi obtusis brevipetiolatis.—*Justicia micrantha* Wall. Cat. n. 2449 ex parte. *Justicia micrantha* et *hispidæ var.* Herb. Heyn. Wall. Cat. l. c. ex parte.

Vidi exemplum Herb. Heyn., inter alia complura *Rostellariæ mollissimæ.*

A *Rostellaria procumbente,* cui setis bractearum et calycum accedit, differt foliis multò minùs lineolatis, amplioribus; bracteis longè diversis, e basi parùm dilatata setaceis longioribus setis articulatis patentissimis flexuosis hirsutissimis; corolla paullò longiore, antheræ locello infero in cornu subcontorto.

Caulis $\frac{1}{2}$—1-pedalis, sexangularis. Folia in α majora, $2\frac{3}{4}$—3 poll. longa, $\frac{3}{4}$ poll. lata; in β vix pollice majora (ramea scil.). Spicæ in α $\frac{3}{4}$ poll. longæ oblongæ, in β breviores ovatæ, densæ. Corolla 2—$2\frac{1}{4}$ lin. longa, pallidè purpurea. Capsula ferè 2-linearis, ovalis.

Adnot. Nomen *micranthæ* immutare ausus sum: 1° quòd flores hujus speciei hoc in genere non minores quàm flores aliarum; tum quia dubius eram, quamnam speciem *micrantham,* quam *hispidæ varietatem* b. Heynius appellaverit.

6. *Rostellaria mollissima:* caule procumbente repente foliisque ex ovato-lanceolatis hirsutis, spicis tetragonis, calycibus bracteolis lanceolatis, bracteisque rhombeo-ovatis acuminatis æqualibus membranaceo-marginatis ciliatis flavicantibus. *Justicia mollissima* Wall. Cat. n. 2445 (ad majorem partem). *Justicia micrantha* et *hispidæ var.* Herb. Heyn. Wall. Cat. n. 2447 ex parte. *Justicia.* Wight. Herb. propr. n. 70.

β. caule elongato flaccido subsimplice.

Crescunt varr. α et β promiscuè in Napalia. (Wallich.)—Var. α etiam vidi in Herb. Wightiano, absque nomine locive natalis indicio.

Foliis spicarumque figurâ *Rostellariæ procumbenti* α similis; differt caule magìs adhuc elongato, densè flavicanti-hirsutulo, pube minùs rigidâ; foliis breviùs petiolatis valdè arcuatìm lineolatis utrinque subappresso-hirsutis; spicis semper densis; bracteis; corollâ majore ampliore, albâ (3 lin. longâ). Capsula ovalis compressa. Retinacula formâ auriscalpii.—β est macra, debilis, umbrâ solique sterilitate extenuata, foliis minoribus, spicâ brevi.

7. *Rostellaria adenostachya:* caule procumbente diffuso, foliis oblongo-lanceolatis lineolatis glabris, spicis pedunculo brevioribus, calycis laciniis bracteis bracteolisque linearibus obtusis glanduloso-pilosis margine angusto membranaceo.—*Justicia procumbens* Wall. Cat. n. 2441 a ex parte. *Justicia diffusa* Herb. Madr. (nescio an omnia exempla.) Wall. l. c.

In Travancore. Herb. Madr.

Adnot. Est species, in posterum denique solertiùs observanda.—Differt a *R. procumbente* foliis longiùs petiolatis glabris, nec nisi margine petiolisque scabris; spicis $\frac{1}{4}$ pollicis longioribus pedunculo brevioribus, pilis capitatis glandulosis etc.—Corollæ albæ labium inferius purpureum.

8. *Rostellaria peploides:* caule erecto ramis divaricatis diffusis repentibus foliisque subovatis obtusis punctulatis glabris, spicis densis basi foliosis, calycis laciniis bracteis bracteolisque conformibus æqualibus ex oblongo linearibus obtusis membranaceo-marginatis apice exasperatis serrulatoque-ciliolatis:

α. foliis caulinis ovatis, summis rameisque ex oblongo-cuneiformibus.—*Justicia procumbens* Wall. Cat. n. 2441 b. et c γ. *Justicia procumbens* var. γ. Wall. l. c.

β. foliis omnibus ex oblongo vel lanceolato cuneiformibus, caule humiliore infirmiore, ramis magìs diffusis.—*Justicia procumbens,* n. 2441 c β. Wall. l. c. *Justicia procumbens var.* β. Herb. Hamilt. Wall. l. c.

Locus natalis non notatus est.

Differt a reliquis glaucedine et glabritie, spicis basi foliosis, floris partibus obtusis patulis apice tuberculis setuligeris exasperatis margineque serrulato-ciliolatis. Herba annua, palmaris—pedalis, caule tetragono, ramis divaricatis elongatis. Folia $1\frac{1}{2}$—1 poll. longa, brevipetiolata. Corolla 2-linearis, glabra, pallida, labii inferioris maculis purpureis.

9. *Rostellaria quinquangularis:* caule erecto procumbentevè foliisque lineari-lanceolatis acutis lanceolatisque elongatis ad tactum scabris, calyce, bracteolis bracteisque sub anthesi æqualibus lanceolatis obtusis margine angustè membranaceis lævibus margineve scabris, antheris glabris, labio subtùs in medio scabro:

α major, caule foliisque elongatis, his acutis, bracteis calycibusque patulis, sub anthesi margine scabris.—*Justicia quinqueangularis* Kön. Roxb. Fl. Ind. ed. Car. et Wall. I. p. 134. R. et Sch. S. V. Mant. I. p. 136. Willd. Sp. Pl. ed. 2. I. p. 393. Spr. S. V. I. p. 81. n. 60. Wall. Cat. n. 2443 c, e, f.

β minor, foliis obtusis, bracteis calycibusque adpressis margine lævibus.—*Justicia diffusa* Herb. Hamilt. Wall. Cat. n. 2443 d. *Justicia quinqueangularis* Wall. Cat. l. c.

Ad margines oryzetorum agri Samulcottensis (Roxburgh).—Var. α in ripa Gangetis fluminis ad Rajmahl a. 1820 (Wallich); in Napalia inferiore, a. 1820 (idem); in Sillet (F. D.).—Var. β in Nimtabad legit cl. Hamilton.

Caules aliquot pedum; in β semipedales. Folia $2\frac{1}{2}$—3 poll. longa, 2 p. lata. Spicæ terminales plerumque ternæ, juniores $\frac{3}{4}$, deinde 6 (—8) poll. longæ, ob bracteas calycesque patulos quasi squarrosæ. Corolla $2\frac{1}{4}$—$2\frac{1}{2}$ lin. longa, alba, labio inferiore roseo. Capsula $2\frac{1}{2}$ lin. longa, oblonga, quadrangularis. Caulis supernè et rami hexagoni, lateribus 4 planis angulo obtuso conjunctis, duobus concavis, ideòque, ubi duo planiorum confluunt, ad speciem pentagoni.

10. *Rostellaria Vahlii:* caule procumbente foliisque lineari-lanceolatis elongatis ad tactum scabris, calyce bracteolisque æqualibus oblongo-lanceolatis bracteisque paullò longioribus ovato-oblongis cuspidatis margine latè membranaceis, apice scabriusculis ciliolatisque, antheris apice labio subtùs barbatis.—*Justicia Vahlii* Roth Nov. Pl. Sp. p. 14. n. 3. (excl. var. β.) Spr. S. V. I. p. 81. n. 63. *Justicia Vahliana* R. et Sch. Mant. I. p. 138. Willd. Sp. Pl. ed. 2. I. p. 393. *Justicia diffusa* Vahl En. I. p. 141. excl. synon. Willd. Poir. Enc. Méth. Suppl. II. p. 100. n. 47. (excl. syn. Willd.) *Justicia procumbens* Herb. Heyn. Wall. Cat. n. 2443 g. *Justicia quinqueangularis* Wall. Cat. l. c. et Herb. Russell. Wall. Cat. n. 2443 a. fol. 1.

β. foliis linearibus, caule magìs diffuso.—*Justicia graminea* et *juncea* Kön., Herb. Russell. fol. 2 et 3. Wall. Cat. n. 2443 a ex parte. Roxb. Fl. Ind. ed. Car. et Wall. I. p. 134. (Adnot. ad *J. quinquangularem*).

Vidi exemplum Herb. Heyn. in Coll. Wallichiana.—Nomine *Justiciæ alatæ* Vahl. in schedula addito eandem sibi ab Heyneo missam esse cl. Rothius refert l. c.

Ad *Rostellariam quinquangularem* relata se habet ut *R. mollissima* ad *R. procumbentem.*—Folia 3—4 poll. longa, 2½—3 lin. lata, haud lineolata. Spicæ, ab initio pollicares ex oblongo cylindricæ, cum temporis progressu ad 5—6 pollices assurgunt angustæ cylindricæ. Corolla 3 lin. longa, labio purpureo. Capsula 3 lin. longa, oblonga.

XXXIX. HEMICHORISTE[*].

Justiciæ sp., Heyne, Wight.

Calyx quinquepartitus, æqualis. Corolla ringens, labio superiore integro, inferiore trifido. Stamina quatuor didynama, versus basin tubi inserta; antheræ longiorum bilocellatæ, locellis connectivo dilatato discretis obliquè divergentibus basi calcaratis; breviorum seu interiorum unilocellatæ basi calcaratæ, vel rudimentariæ. Stigma obtusum bifidum, lamellis arctè contiguis. Ovarium superiora versus quadriovulatum. Fructus. . . . —Inflorescentia: thyrsus elongatus subverticillatus, e cymis oppositis. Bracteæ et bracteolæ latiusculæ, sed non tegentes.

Adnot. Genus hoc APHELANDRAM inter Acanthaceas orientales supplet.

Hemichoriste montana.—Justicia montana Herb. Madr. Wall. Cat. n. 2471 a. *Justicia longifolia* Herb. Heyn. Wall. Cat. n. 2437.

Locus natalis non adscriptus est. ♃.

Herba erecta stricta, aliquot pedes alta, glabra, caule fistuloso tetragono, foliis oblongis integerrimis glaberrimis lætè viridibus penninervibus. Inflorescentia terminalis, ½—1 pedem longa, simplex aut ramosa; flores in pedicellis 3—1 lin. longis cymosi 3—5—7ni. Corolla pollice longior, speciosa, pubescens, coccinea (?).

XL. GRAPTOPHYLLUM[†].

Justiciæ sp., Linn.

Calyx quinquepartitus, æqualis. Corolla ringens, labio superiore recto fornicato margine reflexo, inferiore trifido. Stamina duo. Antheræ bilocellatæ, incurvæ, sagittatæ, muticæ, locellis parallelis æqualibus. Capsula rostrata, juxta basin bilocularis tetrasperma. Semina retinaculis suffulta.—Inflorescentia: racemus terminalis e racemis axillaribus constructus. Bracteæ et bracteolæ parvæ ad basin pedunculorum.

Graptophyllum hortense.—Justicia picta Linn. Sp. Pl. 21. R. et Sch. S. V. I. p. 149. Mant. I. p. 133. Willd. Sp. Pl. ed. 2. I. p. 380. Lam. Enc. Méth. I. p. 627. (E Carmantine) n. 6. Roxb. Fl. Ind. ed. Car. et Wall. I. p. 118. Blume Bydr. p. 784. Wall. Cat. n. 2438 a—f. Wight Herb. propr.—Icon.: Bot. Mag. n. 1870. Bot. Reg. 1227. *Tjude Marum* Rheede H. Mal. VI. t. 60. *folium bracteatum* Rumph. Herb. Amb. IV. p. 73. t. 30. *Antolang* Raj. Suppl. p. 73. n. 7.

Crescit vulgaris in Indiæ orientalis hortis, ornamenti gratiâ culta, multisque ludit variationibus.—In Patna legit cl. Hamilton. Vidi exempl. H. bot. Calc., Herb. Madr. et Herb. Wight.—E Java insula, Blume.

Est fruticosa, foliis oblongis ovatisve cuspidatis glabris pictis, racemo terminali brevi ovato, bracteis parvis, tubo corollæ sursùm ampliato compresso, laciniis margine revolutis intùs glandulosis. Corolla lætè purpurea.

XLI. BELOPERONE[*].

Justiciæ spp., Jacq., Link.

Calyx profundè quinquefidus, laciniis æqualibus latis vel latiusculis, tubo angusto. Corolla ringens, tubo labioque superiore concavo conicis rectis, inferiore labio trifido æquali. Stamina duo, tubo infra medium inserta. Antheræ bilocellatæ, locellis muticis vel basi calcaratis in connectivo simisagittato-ovali obliquè distantibus altero altiore, in quibusdam, connectivo magìs contracto, subcontiguis altero post alterum obliquè sitis. Stigma subulatum. Capsula a basi ad medium compresso-unguiculata, asperma, apice tetrasperma. Semina colorata.—Inflorescentia: spicæ axillares terminalesque, breves, secundæ. Flores alterni, bracteis bracteolisque æqualibus longis angustis. Corollæ speciosæ, coccineæ.

1. *Beloperone Amherstiæ:* spicis axillaribus, bracteis linearibus, calycis laciniis oblongis, antheris muticis, foliis ovato-oblongis acuminatis repandis glabris.

Ex horto illustrissimæ Amherstiæ, a Bollakio allata. Vix Indiæ orientali indigena.

Fruticulus 4—5 pedes altus. Folia 4—6 poll. longa, 1¼—2. p. lata, membranaceis arcubus latis repandis. Spicæ folio multoties breviores. Corolla pubescens, 1½-pollicaris, coccinea. Capsula ½-pollicaris, fusca, nitida. Retinacula obtusa, angusta, cochleariformia. Semina discoidea, rubra.

Addimus congeneres Brasilicas:

Beloperone oblongata: spicis axillaribus, bracteis bracteolis foliisque lanceolatis, antheris basi calcaratis.—*Justicia oblongata* Link et Otto Icon. Plant. Select. p. 115. t. 54. Willd. Sp. Pl. ed. 2. I. p. 381.

Patria Brasilia: in sepibus ad Lagoa dos Frayles, Augusto.—Ad fontem Corcovado rivuli, Junio mense a. 1823. (Beyrich.)—Vidi in Herb. Beyrichii, et viv. cult.

Beloperone plumbaginifolia: spicis terminalibus trifidis, bracteis linearibus, antheris basi calcaratis, foliis ovato-oblongis flaccidis.—*Justicia plumbaginifolia* Jacq. Ecl. p. 20. t. 12. R. et Sch. S. V. I. p. 160. Spr. S. V. I. p. 80. n. 50. Willd. Sp. Pl. ed. 2. I. p. 389.

In sylvis antiquis prope St. Annam, Dec. 1822. (Beyrich.)

Caulis erectus 1—2-pedalis, fruticosus; folia longè petiolata, pendula, mollia. Spicæ pollicares. Corolla semipollicaris, angusta, subpubescens, purpurascens. Capsula hirta, semipollicaris, a basi ad medium compresso-unguiculata asperma.—RUNGIÆ vel PERISTROPHIÆ quoad antheras est consimilis hæc species, locellis ferè in unam lineam dispositis.

XLII. ADHATODA *Herm.*

Justiciæ spp., Linn., Vahl, Roxb., Wall.

Calyx regularis, quinquepartitus, bracteis magnis tectus. Bracteolæ minores, vel subæquales. Corolla bilabiata, labio superiore fornicato, tubo brevi. Stamina duo, infra fauces inserta. Connectivum rhombeo-lanceolatum obliquum; antherarum locelli alter super alterum obliquè positi, valvulis semiovatis, inferior sæpè calcaratus. Capsula infernè sterilis parùm angustata, supernè tetrasperma.—Inflorescentia spicata. Flores solitarii. Bracteæ speciosæ, persistentes, calycem valvatìm tegentes.

1. *Adhatoda argyrostachya:* spicis axillaribus oppositis tetragonis villosis, bracteis generalibus ovatis obtusiusculis basi albidis apice reticulatis, propriis oblongo-lanceolatis acuminatis membranaceis calyce vix longioribus, antherarum locello infero calcarato, foliis latè

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[*] ἡμιχωριστη *semidivisa*, scil. cui antheræ binæ bilocellatæ sunt, binæ unilocellatæ, locellis quasi in duo filamenta *distributis.*—Femininam terminationem, minùs fortè grammaticis probabilem, euphoniæ causâ elegi.

[†] Nomen a foliis pictis deductum est.

[*] Nomen a βελος *telum, sagitta,* et περονη *fibula, sura,* propter *connectivum sagittatum.*

ovato-ellipticis utrinque acuminatis suprà pilis inspersis non lineolatis.—*Justicia argyrostachya* Wall. MSS. Ej. Cat. n. 7172.

In montibus Promæ a. 1826.

Herba speciosa, erecta. Folia cum petiolis 7—8 poll. longa, 3—3½ p. lata. Spicæ solitariæ, digitales et paullò longiores, oppositæ. Bracteæ quadrifariæ, imbricatæ, villosæ et ciliatæ. Corolla vix 6 lin. longa, ochroleuca, labio inferiore purpurâ lineato. Capsula vix 4 lin. longa, superiùs depresso-tetragona.

Adnot. *Justicia polystachya* Vahl, jam filamentis bifurcis ab hac abludens, etiam foliis discrepat brevipetiolatis suprà glabris, totoque habitu.

2. *Adhatoda Betonica:* spicâ terminali secundâ, bracteis generalibus partialibusque ovato-ellipticis ciliatis venoso-reticulatis, antherarum locello infero calcarato, foliis ovatis utrinque acutis suprà lineolatis subpubescentibus repandis dentatisve.—*Justicia Betonica* Linn. Fl. Zeyl. p. 18. Sp. Pl. I. p. 24. Vahl En. I. p. 156. Willd. Sp. Pl. ed. 2. I. p. 367. R. et Schult. S. V. I. p. 160. Mant. I. p. 142. Spr. S. V. I. p. 78. n. 5. Lam. Enc. Méth. I. p. 626. n. 4. (sub Carmantine) Ill. Gen. n. 104. Poir. Enc. Méth. Suppl. II. p. 109. n. 107. Roxb. Fl. Ind. ed. Car. et Wall. I. p. 129. Burm. Fl. Ind. p. 8. Wall. Cat. n. 2433 a ex parte, b—h. (Herb. Hamilt.) Wight Herb. propr. n. 79.—*Justicia Pseudo-Betonica* Roth Nov. Pl. Sp. p. 17. R. et Sch. S. V. I. p. 160. Mant. I. p. 142. Spr. S. V. I. p. 80. n. 51. Willd. Sp. Pl. ed. 2. I. p. 389. *Justicia ochroleuca* Blume Bydr. p. 786. —*Betonica Hormini sativi coma, Amaranthi foliis,* Burm. Thes. Zeyl. p. 47. *Betonica frutescens* Bont. Jav. p. 146. *Bem-curinì* Rheed. H. Mal. II. p. 33. t. 21.

β. foliis inæqualiter dentatis, bracteis candidis laxiùs reticulatis.—*Justicia Betonica* Wall. Cat. n. 2433 b et d.

Crescit in Coromandel; floret maximè tempore sicco; culta autem omni anni tempore (Roxburgh).—In Prome, a. 1826.—In sepibus et nemorosis frequens (Wight). In collibus Monghir d. 30 Aprilis a. 1811 (Hamilton).—Vidi exempla Herbb. Heyn. Madrasp., Wight. —Var. β in Horto bot. Calcuttensi colitur. Vidi etiam in Herb. Roxburgh.

Justicia Pseudo-Betonica Rothii est ipsissima *J. Betonica* Linn. et scriptorum Floræ Indiæ Orientalis. Igitur *J. Betonica* Roth Nov. Pl. Sp. p. 17. n. 5. non solùm diversa, sed, cum monanthera i. e. locellis antheræ parallelis instructa declaretur, alius etiam generis existimanda. Exempla cæterùm Herb. Heyneani illius nominis, mihi visa, nostræ sunt speciei, et cl. Rothius nulla nisi Heyneana specimina habuit, cùm *Justiciam Pseudo-Betonicam* describeret.

Adnot. Sub n. 2433 a. Cat. Wall. hæcce ac sequens junctæ sunt species, ab Hamiltonio in schedis jam distinctæ.

3. *Adhatoda ramosissima:* spicis axillaribus terminalibusque secundis, bracteis bracteolisque ovato-lanceolatis acuminatis glabris albis venoso-trinerviis, reticulatisque, locello infero calcarato, foliis latè ovatis acumine obtuso glabris suprà obsoletè lineolatis.—*Justicia ramosissima* Roxb. Fl. Ind. ed. Car. et Wall. I. p. 130. R. et Sch. S. V. Mant. I. p. 142. Willd. Sp. Pl. ed. 2. I. p. 389. Herb. Hamilt. Wall. Cat. n. 2433 a. *Justicia Betonica* n. 2433 a ex parte.

E Coromandel. Floret in H. b. Calcutt. tempore frigido (Roxb.). Vidi exempla ex H. b. Calc. et ex Herb. Hamilt. (plantam cultam eodem ex horto).

Descriptio Roxburghiana elegantissima.—Affinis species *Adhatodæ Betonicæ,* sed diversa videtur. Caulis subnullus, rami diffusi. Folia 3—4 poll. cum petiolo longa, 1½—2 p. lata. Spicæ 2—3-pollicares, recurvæ, pedunculo pollicari. Corolla 4 lin. longa, sordidè alba. Capsula ½-pollicaris, pubescens, ovalis.—An *Adhatodæ Betonicæ* varietas, culturâ orta?

4. *Adhatoda nilgherrensis:* spicâ terminali tetragonâ, bracteis generalibus terminalibusque ovato-acuminatis venoso-trinerviis glabris, antherarum locello infero calcarato, foliis lanceolatis sessilibus glabris lævibus.—*Justicia nilgherrensis* Wall. Cat. n. 2435 a, b. *Justicia pectinata* Wight Herb. propr. n. 47.

In inundatis ad Trevacore provinciæ Tanjore, Wight (nomine *J. pectinatæ*). In montibus Nilgherry dictis, cl. Noton. Wallich l. c.

Caulis ramosus fruticosus. Folia ferè sessilia. Spicæ ferè *Adhatodæ Betonicæ,* 1—3 poll. longæ, bracteis speciosis albidis. Corolla bracteas parùm superans, intùs et extùs pubescens, albida, purpureo-striata. Capsula ferè ¾ pollicis longa, fusca, tomentoso-sericea. Retinacula crassa, uncinata.

5. *Adhatoda trinervia:* suffruticosa, caule procumbente, spicis terminalibus secundis, bracteis bracteolisque æqualibus oblongo-lanceolatis acuminatis venoso-reticulatis, antherarum locello infero calcarato, foliis lanceolatis ovalibusve obtusis sessilibus glabris.

α. foliis lanceolatis plerumque integerrimis.—*Justicia trinervia* Vahl En. I. p. 156. *Dicliptera trinervia* Juss. Ann. du Mus. IX. p. 169. R. et Sch. S. V. I. p. 171. Willd. Sp. Pl. ed. 2. I. p. 428. Wall. Cat. n. 2446 a ex parte. *Carmantine à trois nervure* Poir. Enc. Méth. Suppl. II. p. 109. n. 108.

β. foliis ovalibus vel oblongis obtusis subcrenatis.—*Justicia trinervia* Herb. Heyn. Wall. Cat. n. 2446 a (pars altera), et ?b.

Crescit in India orientali (Vahl). Vidi exempla utriusque varietatis in Herbb. Heyn. et Wight., loco speciatìm non adnotato.

Intermedia quasi inter *Adhatodam nilgherrensem* et *Adh. arenariam,* differt ab illa staturâ minore, foliis, bracteis, quæ angustiores neque tam evidenter venoso-pictæ; ab hacce differt foliis nunquam emarginatis, bracteis acuminatis bracteolisque majoribus apicem versus obsoletè venoso-trinervibus, nec totis herbaceis, tum corollæ labio superiore immaculato.

6. *Adhatoda arenaria:* suffruticosa, caule procumbente diffuso, spicis terminalibus secundis, bracteis bracteolisque oblongis herbaceis, locello infero calcarato, foliis linearibus obtusis emarginatis glabris sessilibus.—*Justiciæ* spec. Herb. Madr. Wall. Cat. n. 2446 c. *Justicia trinervia* Wall. Cat. l. c. *Justicia* . . : n. 48. Herb. Wight.

Crescit in arenosis humidis Vellingany, Negapatam, Jangore. (Wight.)

Inter congeneres benè distincta, Helianthemi similitudine. Radix validissima, crassè fibrosa. Caules circiter palmares. Folia unguicularia, 1½ lin. lata, lineari-cuneiformia, carnosula. Spica pollicaris. Corolla 4 lin. longa, extùs pubescens, albida, maculâ purpureâ trifidâ ad staminum insertionem. Capsula clavata, crassa, pubescens. Retinacula oblonga, lamelliformia.

Ab *Ahatoda trinervia* differt foliis retusis, bracteis bracteolisque minoribus herbaceis minùs acuminatis.

7. *Adhatoda Vasica:* spicis axillaribus oppositis ovatis longè pedunculatis, bracteis herbaceis glabris ovatis, bracteolis ellipticis minoribus, locellis obliquè parallelis, infero basi mucronato, foliis elliptico-oblongis utrinque attenuatis glabris suprà minutè papillatis.—*Justicia Adhatoda* Linn. Fl. Zeyl. p. 16. Willd. Sp. Pl. ed. 2. I. p. 385. R. et Sch. S. V. I. p. 159. Mant. I. p. 141. Burm. Fl. Ind. p. 7. Roxb. Fl. Ind. ed. Car. et Wall. I. p. 127. Blume Bydr. p. 785. Wall. Cat. n. 2434 a—k. Wight Herb. propr. n. 78.—*Carmantine en arbre* Lam. Enc. Méth. I. p. 626. n. 1. Ill. Gen. n. 98.—*Adhatoda Zeylanensium* Herm. H. Lugdb. p. 642 c. ic. in 643. Pluken. Almag. p. 9. t. 173. f. 3. Burm. Thes. Zeyl. p. 6.—Icon.: Bot. Mag. t. 861.

Crescit vulgatior in omnibus Indiæ partibus, floret tempore temperato (Roxb.). In Napalia, a. 1821, legit Wallichius; in Sillet F. D.; in Rungpur Hamilton; in Sirmore Gerard; in Segaen d. 21 Oct. a. 1826, et ad Nedaun ripæ fl. Attran, 1827. Ad sepes exstruendas in promontorio Jangore culta (Wight).—Circa Lingua Jattie provinciæ Cheribon in sepibus vivis, floret omni ferè tempore (Blume). In Zeylona et Java, undè sæpiùs missa, in hortis vulgaris (Burmann). H. b. Calc.—Vidi etiam exempla Herbb. Madrasp. et Wight.

Genicula, supra folia tumentia, pedunculos proferunt supraaxillares. Flos speciosus; corolla pallida, purpurâ lineata et maculis ferrugineis inspersa.

XLIII. GENDARUSSA *Rumph.*

Justiciæ spp., Linn., Roxb., Wall.

Calyx regularis, quinquepartitus, basi bracteis parvis instructus. Corolla bilabiata, labio superiore fornicato, tubo brevi. Stamina duo, nfra fauces inserta. Connectivum rhombeo-lanceolatum, obliquum; antherarum locelli alter super alterum obliquè positi valvulis semiovatis, inferiore calcarato. Capsula infernè sterilis parùm angustata, supernè tetrasperma.—Inflorescentia spicata vel verticillata. Bracteæ parvæ, vel, si majores, deciduæ, (vel bracteæ et bracteolæ subæquales, calyce longiores: in specc. Americanis). Flores oppositi.

a. Spicato-thyrsoideæ, bracteis bracteolisque conformibus.

1. *Gendarussa vulgaris:* fruticosa, spicis terminalibus subverticillifloris basi foliosis, bracteis parvis, foliis lanceolatis glabris.—*Justicia Gendarussa* Linn. Suppl. p. 85. Willd. Sp. Pl. ed. 2. I. p. 387. R. et Sch. S. V. I. p. 152. Burm. Fl. Ind. p. 10. Roxb. Fl. Ind. ed. Car. et Wall. I. p. 129. Wall. Cat. n. 2442 a—k. Wight Herb. n. 74. *Carmantine saliciforme* Lam. Enc. Méth. I. p. 627. n. 7. *Justicia Gandarussa* Schult. Mant. I. p. 135. Blume Bydr. p. 785. *Gendarussa sofa* Rumph. Herb. Amb. IV. p. 70. t. 28 et 29. *Vada Kodi* Rheede H. Mal. IX. p. 79. t. 42. *Ranunculus galeatus, salicis glabro folio, bisnagaricus; floribus aurantiis.* Pluk. Alm. p. 316. Amalth. t. 55. f. 3. *Adhatoda maderaspatensis, hydropiperis folio,* Petiv. in Act. Angl. n. 244. p. 319.—Icon: Jacq. Ecl. t. 11.

β *Dohona,* foliis apicem versus repando-crenatis.—*Justicia Dohona* Herb. Hamilt. Wall. Cat. n. 2442 f.

Indigena in vallibus provinciæ Maduræ (Wight Herb.). Rangoon et Taong Dong (Wallich, 1826.). In montibus Sillet (a. 1829, Guil. Gomez). Patna (d. 25 Mart. 1812, Hamilton).—"Frutex elegans, quem nunquam sponte crescentem vidi. Frequens autem occurrit in hortis, traducibus propagulisque facilè propagandus. Floret tempore pluvio. In insulis Malaicis sylvestrem esse narrant." Roxburgh.—"Crescit in sepibus vivis, sed fortassè ex insulis Philippinis introducta; floret per totum annum." Blume.—Var. β Dhupari d. 7 Aprilis a. 1808, et Nageswari, legit cl. Hamilton.—In caldariis Europæis vulgaris stirps. Vidi exempla spont. et culta Hort. Calc. et Europæorum.—Corolla miniato-purpurea.

2. *Gendarussa vasculosa:* fruticulosa, caule infernè tereti repente apice adscendente, spicis terminalibus compositis ramis secundis, floribus oppositis, bracteis bracteolisque calyce paullò brevioribus ovato-lanceolatis, antheris calcaratis, foliis oblongo-ellipticis utrinque attenuatis suprà lineolatis.—*Justicia vasculosa* Wall. Cat. n. 2469 a, b. *Ruellia rivinæfolia* Wall. Cat. n. 2413 (exempla flore imperfectiore).

In montibus provinciæ Sillet legit F. D. Vidi etiam exempla culta ex H. b. Calc.

Affinis est *Gendarussæ bifariæ,* sed longè diversa spicis terminalibus compositis, calycibus multò minoribus campanulatis, foliis angustioribus.—Fruticulus *Rivinæ lævis* habitu, caule glabro (in H. Calc. hirtulo), pedali, bipedali. Folia 3—$3\frac{1}{2}$ poll. longa, ferè 1 poll. lata, longè petiolata. Spicæ 1—$1\frac{1}{2}$ poll. longa, pubescenti-scabra. Corolla 4—5 lin. longa, pubescens, alba, maculis sanguineis, venulis labii superioris purpureis.

3. *Gendarussa bifaria:* fruticosa, caule infernè tereti supernè bifariàm hirsuto, racemulis axillaribus spiciformibus scabris, floribus solitariis oppositis, bracteis generalibus partialibusque lineari-subulatis calyce brevioribus, foliis ellipticis utrinque acuminatis glabris lineolatis repando-denticulatis.—Wall. Cat. n. 7173.

In rupibus prope Pingee, ad ripam Irawaddi, a. 1826. Vidi exemplum unum cum fructu, absque floribus.

Folia $4\frac{1}{2}$—7 poll. longa, in petiolo 1—$1\frac{1}{2}$-pollicari, $1\frac{3}{4}$—$3\frac{1}{2}$ poll. lata. Racemulus axillaris, 2—$2\frac{1}{2}$ poll. longus. Capsula ferè pollicaris, glabra, structuræ generis.

4. *Gendarussa Wynaadensis:* fruticosa, caule tereti lævissimo lineato, spicis axillaribus patentibus nutantibus basi diphyllis glanduloso-pubescentibus, floribus solitariis oppositis, bracteis ovatis deciduis bracteolisque lineari-subulatis calyce brevioribus, antheris basi calcaratis, foliis oblongis utrinque attenuatis suprà substrigosis, inferioribus crenato-dentatis.—*Justicia Wynaadensis* Herb. Heyn. Wall. Cat. n. 2474.—et Herb. Wight ex parte. Wall. Cat. n. 2496 c. *Justicia lineata* Wall. Cat. n. 2486 c.

Vidi exempla Herb. Heyneani in Herbb. Wallichiano et Wightiano.

Multis convenit cum præcedente, satìs tamen distincta videtur.—Folia 4—5 poll. longa, $1\frac{1}{2}$ poll. lata, petiolo brevi. Spicæ 1—2 poll. longæ. Corolla 4 lin. longa, pubescens, purpureo-venosa, quasi angustè campanulata.

5. *Gendarussa decussata:* fruticosa, caule tetragono pubescenti-hirto decussatìm ramoso, spicis terminalibus elongatis interruptis densè pubescentibus, floribus glomerulato-verticillatis, bracteis parvis spathulatis, bracteolis lineari-lanceolatis, corollæ ringentis labio inferiore convexo, antherarum locello utroque calcarato, foliis ovatis in petiolum attenuatis glabriusculis suprà lineolatis.—*Justicia decussata* Roxb. Fl. Ind. ed. Car. et Wall. I. p. 128. R. et Sch. S. V. Mant. I. p. 141. Willd. Sp. Pl. ed. 2. I. p. 402. Wall. Cat. n. 2476 a—d.

Spontè crescit in regione supra Rangoon sita et inde in H. b. Calcuttensem introducta est, ubi Februario et Martio mensibus floret (Roxb.). E Prome 1826 (Wall.). Ad Amherst et in ripa Attran fluvii, d. 15 Feb. 1827. Vidi etiam exempla ex Horto b. Calcuttensi.

Similis *Leptostachyæ virgatæ,* sed differt, præter generis notas: caule ramisque distinctè, licet obtusè, tetragonis, rhachibus spicarum densiùs molliterque villosulis, petiolo brevi, nec longo etc., bracteis semper latioribus. Calyces et bracteolæ densè pubescentes. Corolla carnea, pubescens, dimidiò major, quàm in illa.

b. Spicatæ, bracteis foliaceis majoribus, demùm deciduis.

6. *Gendarussa ventricosa:* fruticosa, articulata, spicis in caule ramisque terminalibus subverticillifloris, bracteis universalibus decussantibus ovalibus orbiculatisve acutis ciliatis, propriis subulatis parvis, labio superiore plano, antherarum locello inferiore calcarato, foliis oblongis glabris.

α. bracteis ellipticis, foliis oblongis.—*Justicia fragilis* Wall. MSS. Ejusd. Cat. n. 7174.

β. bracteis orbicularibus, foliis cuneiformibus.—*Justicia ventricosa* Wall. Pl. As. Rar. I. p. 80. t. 93. Hook. Bot. Mag. n. 2766. Spr. Fil. Suppl. p. 1. Willd. Sp. Pl. ed. 2. I. p. 366, (inter species locellis parallelis)? Wall. Cat. n. 2436 a—c.

Crescit in montibus Sillet (Wallich). In Amherst, lecta cum floribus d. 3 Feb. 1827.—Var. β in ripa fluminis Attran oræ Martabaniæ; Kogun, (?) idem d. 11 Mart. 1827.—In Hort. bot. Calc. e China introducta a. 1820 a J. Reeves. Floret mensibus Decembre et Februario. (Wallich.)

Frutex staturæ *Gendarussæ vulgaris,* caule tereti, foliis 4—5 poll. longis, $1\frac{1}{2}$ poll. latis, petiolo brevi. Spicæ 2—3 poll. longæ, tetragonæ, basi bifoliatæ. Corolla 4—5 lin. longa, pubescens, albida vel luteola, purpureo-reticulata.—Fructus deest.

7. *Gendarussa Orixensis:* herbacea, spicis terminalibus axillaribusque subsecundis, bracteis orbiculato-spathulatis ciliatis, superioribus sterilibus, bracteolis oppositis lineari-subulatis, antherarum locello inferiore calcarato, foliis ovatis densè lineolatis glabriusculis, caule pubescenti-scabro.—*Justicia orixensis* Kön. MS. in Roxb. Fl. Ind. ed. Car. et Wall. I. p. 133. n. 26. R. et Sch. S. V. Mant. I. p. 145. Willd. Sp. Pl. ed. 2. I. p. 399. Wall. Cat. n. 2424 d.—Herb. Russell. Wall. l. c. a. Wight. Herb. n. 97.—*Justicia tranquebariensis* Roxb. Fl. Ind. l. c. p. 131. n. 23 (excl. synon. Linn.) R. et Sch. Mant. I. p. 144. (nec verò S. Veg. quæ vera *J. tranquebariensis* Linn.) Wall. Cat. n. 2424 a ex parte; d: Wight Herb. n. 56. (*J. glabra.*).

β *glauca,* caule foliisque sæpè densiùs puberulis.—*Justicia glauca* Rottl. Willd. in Act. n. Scr. Ber. IV. p. 219. R. et Sch. S. Veg. I. p. 165. Spr. S. V. I. p. 83. Willd. Sp. Pl. ed. 2. I. p. 405. Herb. Madr. et Herb. Heyn. Wall. Cat. n. 2424 b, c. *Justicia tranquebariensis* Wall. Cat. n. 2424 b (ex parte), c.

γ *axillaris,* floribus plerisque axillaribus, calycis laciniis bracteolisque majoribus, caule foliisque glabris.—*Justicia.* Hb. Wight. propr. n. 56. (cum var. α).

Vulgaris inter virgulta, solo sicco et sterili oræ Coromandelianæ; floret tempore pluvio frigidoque. (Roxb.) Solo sicco glareoso locis elatioribus in vicinia Samulcotæ urbis (Wight). In aridis glareosis (idem); in montibus Vendaloor: Wight (Wall. l. c.).—Var. β vidi in Herbb. Madrasp. et Heyn.; var. γ in Hb. Wight.

Folia pollicaria, (Origani) petiolo semipollicari. Flores subsessiles in axillis foliorum inferiorum, alterni, ramulo axillæ alterius opposito, in summitate diminutis foliis spicæ similitudo comparatur.—Semina muricata.

Adnot. *Justicia orixensis* Roxb., ad exemplum Kœnigianum inducta a b. Roxburghio, eadem omninò est planta, ac *J. tranquebariensis* Fl. Ind. Differt autem hæc a *J. tranquebariensi* Linn. foliis ovatis, nec obovatis, alia ut taceam. Communes sunt utrique spicæ tetragonæ unilaterales, laxiusculæ, scil. bractearum superiorum seriebus binis sterilibus.—Flores circiter 3 lin. longi in nostra, e luteo pallidissimo rubroque mixti (Roxb.).—In var. β bracteæ quandoque acutiusculæ, vel mucronato-cuspidulatæ.—Var. γ, habitu et inflorescentiâ quidem distincta, multis gravissimisque notis connectitur cæteris.

8. *Gendarussa Tranquebariensis:* fruticosa, canescenti-pubescens, floribus axillaribus solitariis in spicam terminalem adscendentibus, bracteis orbiculatis retusis, bracteolis calycem æquantibus linearibus, locellis antherarum inferioribus calcaratis, foliis subrotundis parvis.—*Justicia tranquebariensis* Linn. Suppl. p. 85. Vahl Symb. II. p. 17. En. I. p. 163. R. et Sch. S. V. I. p. 165. Willd. Sp. Pl. ed. 2. I. p. 405. Spr. S. V. I. p. 144. Wall. Cat. n. 2424 a ex parte, b ex parte, d ex parte, et 2462.—Wight Herb. propr. n. 58.—*Justicia parvifolia* Lam. Enc. Méth. I. p. 627. n. 10. Poir. Enc. Méth. Suppl. II. p. 113. n. 125.

Frequens in aridis nemorosis provinciæ Madras, etc. (Wight l. c.)—In Tranquebaria (Linn.).

Præcedenti similis quidem, minimè verò commutanda. Differt radice crassâ, lignosâ, tortâ; caule ad basin ramosissimo lignoso intricato trichotomo, cortice albo glabriusculo; ramis elongatis, alternatìm ramulosis mollissimè incano-puberulis; foliis minoribus, articulis ramorum principalium multò brevioribus, ad summum pollicaribus sæpiùs 3—4 linearum diametro, subrotundis; floribus jam ab inferiore caulis parte verè axillaribus sessilibus ramulo vel ramuli gemmulæ oppositis, denique in summitate ramulorum contractis sensìm sensìmque articulis foliisque floralibus ex subrotundis obtusisque retusis factis, spicam construentibus, minimè autem derepente in spicam abeuntibus e paucis inferis nullisve omninò axillaribus.—Corolla lutea, purpureo-punctata et lineata.—Corollæ et capsulæ structura eadem in utraque specie.

Adnot. *Justicia Orixensis* Herb. Russell. est illa species, quam ipse *Orixensem* appello. *Justiciæ tranquebariensis* nomine inscripta duo in eodem hujus herbarii folio exstant specimina, quorum alterum valdè imperfectum et vix determinabile, fortassè *Gendarussæ Orixensis* var. *glaucæ* est, alterum autem *Adenosmæ uliginosæ*.

c. Axillifloræ, verticillatæ vel floribus solitariis.

9. *Gendarussa Neesiana:* fruticosa, floribus axillaribus geminis subverticillatis, bracteâ utrinque parvâ spathulatâ, labio superiore angusto concavo, staminibus reflexis, locello antherarum infero calcarato, foliis lineari-lanceolatis glabris.—*Justicia Neesiana* Wall. Cat. n. 7175.

In montibus provinciæ Sillet legit Guil. Gomez, a. 1830.

Habitu accedit ad *Justiciam* (*Gendarussam*) *lithospermifoliam* Jacq. et confines.—Fruticulus elegans, $\frac{1}{2}$—1 pedem altus, lignosus, erectus, infernè aphyllus, supernè densè foliosus, simplex vel ramosus, foliis $1\frac{1}{2}$—$1\frac{3}{4}$ poll. longis, 2—$2\frac{1}{4}$ lin. latis, petiolo brevi. Bracteæ communis loco ipsum folium. Corolla 4 lin. longa, pubescens, lutea (?). Capsula $3\frac{1}{2}$ lin. longa, lanceolata, glabra, lutescens, tetragona, bisulca. Semina cordato-subrotunda, plana, tuberculata, brunnea.

10. *Gendarussa quadrifaria:* herbacea, floribus verticillatis, bracteis obcordato-spathulatis, antherarum locello infero calcarato, foliis oblongo-lanceolatis utrinque puberulis.—*Justicia quadrifaria* Wall. Cat. n. 2479 a.

β *culta:* foliis latioribus ovalibus suprà glabris. Wall. l. c. n. 2479 b.

In montosis provinciæ Sillet legit F. D. Vidi spontaneam, et cultam (β) ex H. b. Calc.

Caulis pedalis et ultrà, erectus, strictus, obtusè tetragonus. Folia decussata, erecta, $3\frac{1}{2}$ poll. longa. Flores 3ni (—5ni), sessiles. Calyx 3-linearis; corolla illo paullò longior, pubescens, pallida. Semina cordata.

11. *Gendarussa furcata:* fruticosa, floribus axillaribus solitariis aggregatisve, terminalibus subternis, bracteolâ utrinque parvâ lineari-lanceolatâ, labio superiore bifido, inferiore lato convexo trilobo, locelli inferi calcare bifido cristatoque, foliis oblongis utrinque attenuatis pubescentibus.—*Justicia furcata* Jacq. H. Schœnbr. I. t. 3. Willd. Sp. Pl. ed. 2. I. p. 406. (c. synon.). *Justicia peruviana* Cavan. Icon. I. p. 17.

?β. foliis lanceolato-oblongis, calyce tripartito! (in flore unico quem vidi observato.)—*Justicia peruviana* in Hort. bot. Calc. Wall. Cat. n. 7176.[*]

Ex Horto bot. Calc.

Exemplum nimìs est imperfectum, quàm quo sententiæ fides conciliari possit. Differt a communi forma: foliis angustioribus, pube minùs molli; calyce, in axilla solitario, tripartito, laciniis lanceolatis, nec quinquepartito; corollâ paullò minore.

Adnot. Ejusmodi formas, calyce longissimo, tripartito, laciniis binis bipartitis, vidi in Herb. Hænkeano; his flores omnes in apicibus ramulorum collecti. Capsula sursùm ventricosa, ovata, nec compressa. Has formas sub varietatis γ signo comprehendam.

XLIV. LEPTOSTACHYA[†].

Justiciæ spp., Wall., Jacq., H. et K.

Calyx quinquepartitus, æqualis, bracteis bracteolisque parvis subulatis suffultus. Corolla ringens, tubo brevi, labio superiore latè fornicato, inferiore convexo trifido. Stamina duo, faucium inflatarum basi inserta. Antheræ bilocellatæ muticæ; locelli alter obliquè super alterum positi, contigui, paralleli, emisso polline undulati. Stigma bifidum. Capsula basi compressa asperma, valvularum commissurâ planâ; apice depressa, tetrasperma. Dissepimentum adnatum. Semina muricata, retinaculis apice bifidis suffulta.—Inflorescentia: spicæ gracillimæ, e floribus distantibus oppositis glomerulatis vel solitariis parvis, superioribus in aliis secundis. Bracteæ bracteolæque conformes. Capsula ratione floris magna.

Adnot. Inter exoticas hujus loci sunt: *Justicia* (*Leptostachya*) *pectoralis* Jacq., *J. nitida* Jacq., et *J. polygonoides* H. et K.

1. *Leptostachya virgata:* foliis deltoideis suprà lineolatis, spicis tomentoso-scabris.—*Justicia virgata* Wall. MSS. Ejusd. Cat. n. 7177.

Lecta in Taong Dong d. 26 Novembris a. 1826, florere incipiens.

Ramus adest teres, lignescens, nodoso-articulatus, infernè glaber. Folia inferiora 6—7 poll. longa, $3\frac{1}{2}$ poll. lata, acuta, glabra, petiolo ejusdem longitudinis, tetragono; summa duplò minora. Spica terminalis, $\frac{1}{2}$-pedalis, gracilis, trichotoma ramisve alternis longis patulis. Flores sessiles plerumque terni. Calyx vix linearis. Corolla 3—4 lin. longa, pubescens, pallidè purpurea (?).

2. *Leptostachya Wallichii:* foliis oblongis suprà punctulato-asperis, spicis glandulosis.—*Ruellia leptostachya* Wall. Cat. n. 2411.

Ex Herbario Wightiano.

Similis est *Gendarussæ virgatæ*, sed, præter generis notas, differt abundè foliorum formâ et floribus minoribus.—Caulis obsoletè tetragonus, infernè glaber, lineolatus. Folia tenera, amœnè viridia, cum petiolo pollicari 8 poll. longa, 2 poll. lata, acuminata. Spica trichotoma, patula, $\frac{3}{4}$—1 pedem longa, caulem terminat. Calyx vix 1 lin. longus. Corolla bilinearis, pubescens, viscidula, purpurascens. Capsula 8 lin. longa et longior, clavata, mucronata, densè pubescens. Semina orbiculata.

Addimus novam hujus generis speciem:

?*Leptostachya polita:* foliis oblongis utrinque attenuatis glabris, spicis axillaribus terminalibusque umbellatis dissitifloris, floribus alternis secundis, caule tetragono lævi.

Ad rivulos in Serra de Estrella. (Beyrich.)

Accedit *Leptostachyæ nitidæ*, quæ differt floribus racemosis, cùm nostræ flores sunt spicati; tum distinctissima in nostra spicarum dispositio ex trichotomia umbellaris. Folia inferiora palmaria, nitidula, firma.

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[*] Vix non aliena in India Orientali planta.—N. W.

[†] A λεπτος *tenuis*, et σταχυς *spica*.

XLV. GYMNOSTACHYUM*.

Calyx quinquepartitus, laciniâ superiore breviore. Corolla bilabiata: labio superiore angustiore bidentato, inferiore trifido. Stamina duo, tubo infra medium inserta, inclusa; sterilium rudimenta nulla. Antheræ bilocellatæ, locellis æqualibus parallelè contiguis basi mucronatis. Stigma bifidum, laciniis compressis. Fructus incognitus.—Inflorescentia: (in unica specie) racemus spiciformis, gracilis, subsecundus, e floribus distantibus brevissimè pedicellatis. Bracteæ exiguæ, subulatæ, suboppositæ; alterâ sterili paullò inferiore. Bracteolæ nullæ.—Habitus ERANTHEMI. Caulis humilis. Spica terminalis, bi-trifida, longa, sed pauciflora.

Gymnostachyum leptostachyum.—Wall. Cat. n. 7178.

Tavoy, d. 8 Septembris a. 1827, floribus nondum explicatis, legit Fr. Gomez. Vidi exempla duo.

Herbaceum est, caule semipedali basi radicante, subtetragono hirsuto. Folia oblonga, utrinque attenuata, costata, suprà pilosa: inferiora 4—5 poll. longa, longè petiolata; obtusa sunt infima; superiora acuminata, minora, ramea 2—4. Spicæ duæ, terminales, 3—5 poll. longæ, filiformes, floribus solitariis distantibus subsecundis omninò sessilibus. Bracteæ sub singulo flore singulæ, subulatæ, pubescentes, calyce duplò breviores. Bracteolarum nulla vestigia vidi. Calyx glanduloso-pubescens, laciniis angustis. Corollæ alabastrum (in nostris) 4 lin. longum, calyce plùs duplò longius, clavatum, pubescenti-viscidum, purpurascens; limbus corollæ bilabiatus, labio inferiore superiùs amplectente. Antheræ basi bicalcaratæ sive recurvo-aristatæ, inclusæ. Ovarium oblongum; stylus longus; stigma bifidum (?).—Fructus latet.

(Subtrib. V.) Divis. 3. ERANTHEMA.

XLVI. ERANTHEMUM *R. Br.*

Justiciæ specc., Linn., Vahl, Willd., Roxb. cet. *Ruelliæ* spec., Vent.

Calyx quinquefidus, æqualis. Corolla hypocrateriformis, vel elongato-infundibuliformis, tubo longo gracili, limbo subæquali. Stamina: duo fertilia circa os tubi adnata, longè decurrentia; duo sterilia brevissima, filamentis longiorum basi connexa; in speciebus nonnullis anomalis hæc rudimenta omninò desunt. Antheræ exsertæ, bilocellatæ, muticæ, locellis parallelis contiguis, texturæ densioris. Capsula infernè compressa, valvulis contiguis, asperma; superiùs bilocularis tetrasperma. Dissepimentum adnatum. Semina discoidea, retinaculis suffulta.—Inflorescentia: spica, bracteis communibus majoribus aut minoribus, bracteolis omnium parvis oppositis.

a. Grandibracteata.

1. *Eranthemum nervosum* R. Br.: caule quadrangulari lateribus excavatis, foliis ovatis ellipticisve utrinque acuminatis subcrenatis integerrimisve lineolatis glabris, spicis axillaribus oppositis imbricatis, bracteis ellipticis longè cuspidatis venoso-reticulatis.—*Eranthemum nervosum* R. Br. Prodr. Fl. Nov. Holl. ed. N. ab E. I. p. 333. R. et Sch. S. V. I. p. 174. Mant. I. p. 151. Spr. S. V. I. p. 89. Link En. H. Ber. I. p. 28. Wall. Cat. n. 2493 b, d, e, f, h, i, k. *Eranthemum pulchellum* Andr. Rep. t. 88. Willd. En. H. Ber. Suppl. p. 2. Roxb. Fl. Ind. ed. Car. et Wall. I. p. 111. Herb. Madr. Herb. Wight. *Justicia nervosa* Vahl En. I. p. 164. Poir. Enc. Méth. Suppl. I. p. 113. n. 129. Ait. H. Kew. I. p. 42. Bot. Mag. n. 1358. Bot. Cat. n. 146. *Justicia pulchella* Roxb. Pl. Corom. II. p. 41. t. 177. Ker Rec. Pl. Repos. p. 41. Herb. Heyn. (Wall. Cat. n. 2493 i.) *Ruellia varians* Vent. Hort. Cels. t. 46. Willd. En. H. Ber. p. 657.

β *scabrum:* foliis minoribus crenatis, haud lineolatis, suprà costisque scabris, spicis brevioribus.—*Eranthemum nervosum* Wall. Cat. n. 2493 g.

Crescit locis siccis umbrosis incultisque in variis Indiæ orientalis tractibus, florens tempore frigido summâque florum pulchritudine superbiens mense Februario. Roxburgh.—In Sillet. (F. D.—Wall. Cat. n. 2493 d.); in Napalia, a. 1820 (2493 e.); in Hurdwar, a. 1825. (2493 f.)—E. Madras, cultum (Herb. Wight.). Ex H. b. Calc. (Wall. n. 2493 b.)—Var. β e Srinagur, Rungpur (Wall. l. c.).

Species in hortis vulgatissima, corollis pulchrè cœruleis insignis.

Var. β, quæ fortassè propria species habenda, differt: caule ad angulos scabro; foliis ad summum 5 poll. longis, toto ambitu confertìm undato-crenatis, costis approximatis subtùs valdè prominentibus venulisque rugosis, iisque subtùs pubescenti-scabris, suprà minimè lineolatis sed setulis sparsis rigidis incumbentibus scabris; spicis brevioribus,—quæ quidem in nostro nimìs imperfectæ, nondum floridæ.

2. *Eranthemum macrophyllum* Wall.: foliis elliptico-cuneiformibus acutis infra apicem dentatis margine scabris, spicis axillaribus basi infractâ bibracteatis, bracteis ellipticis mucronulatis reticulatis. *Eranthemum macrophyllum*? Wall. Cat. n. 7179.

In jugo Taong Dong, d. 26 Nov. a. 1826; et in montibus Promæ et rupibus ad Pengee in ripa Irawaddi fluminis.

Caulis herbaceus, quadrangularis, erectus, cum ramis pubescenti-scaber. Folia inferiora 1—$1\frac{1}{2}$-pedalia, 5—6 poll. lata, petiolo longo. Spicæ axillares s. potiùs in ramis axillaribus foliorum superiorum terminales, cum pedunculo s. ramo folium vix superantes, 2—3-pollicares. Bracteæ imbricatæ, nec admodùm confertæ, decussatìm oppositæ, unguiculares. Flores sessiles, solitarii. Calyx $2\frac{1}{2}$ lin. longus. Corolla $1\frac{1}{4}$—$1\frac{1}{2}$ poll. longa, pubescens, coccinea, tubo longo. —Fructus deest.

3. *Eranthemum tetragonum* Wall.; caule fruticoso glabro spicisque axillaribus tetragonis, foliis ovato-oblongis acuminatis lineolatis glabris, bracteis imbricatis elliptico-oblongis hirtis corollæ laciniis subrotundo-ovatis.—*Eranthemum tetragonum* Wall. MSS. Ejusd. Cat. n. 7180.

In Trogla ripæ Saluen fluminis, d. 12 Mart. a. 1827.

Frutex, foliis pollicaribus, $1\frac{1}{4}$ poll. latis brevipetiolatis repando-subcrenatis. Spicæ axillares et probabiliter etiam terminales, solitariæ, circiter 2-pollicares. Bracteæ unguiculares, penninervi-venulosæ, hirtæ et glanduloso-pubescentes, ciliatæ. Calyces illis breviores. Corollæ vix pollicares, coccineæ (?). Capsula bracteam æquans longitudine. Semina compressa, orbiculata, læviuscula.

Adnot. Capsula hujus speciei STROBILANTHIS potiùs esse videtur, quàm ERANTHEMI, et inflorescentia quoque STROBILANTHEM indicat; sed corolla et staminum constructio ERANTHEMI nexum utriusque generis æquè ac terminos demonstrat.

4. *Eranthemum purpurascens:* caule quadriquetro foliisque latè ovatis acuminatis repando-crenatis glabris, superioribus obcordatis brevissimè petiolatis, spicis axillaribus oppositis longè pedunculatis imbricatis, bracteis ovato-rhombeis longissimè attenuatis ciliatis.—*Eranthemum montanum* Wall. Cat. n. 2492 e. *Justicia purpurascens* Herb. Hamilt. Wall. l. c.

β. spicis abbreviatis squarrosis, inferioribus longissimè pedunculatis.—Wight Herb. propr. n. 82.

In Monghir et Munihari, d. 9 Octobris a. 1811. (Hamilton.)—Var. β in montibus Dindygul et Courtallum. (Wight.)

Folia inferiora 5—7 poll. longa, $2\frac{1}{4}$—4 p. lata; superiora 4—2 p. longa, 2—$1\frac{1}{4}$ p. lata, petiolo vix lineari; costata et venoso-reticulata omnia; ramulorum pollicaria, ovato-subrotunda, obtusa. Pedunculi axillares, aphylli, $1\frac{1}{2}$—2 p. longi; in var. β autem 5—7-pollicares. Bracteæ laxè imbricatæ, in β squarroso-patulæ. Spicæ cæterùm $1\frac{1}{2}$—2-pollicares, (in β $1\frac{1}{2}$ poll. longæ,) ex ovato-attenuatæ, supremæ ellipticæ, basi subcuneatæ. Bracteolæ calycis longitudine. Corolla pollicaris, pubescens, purpurea, tubo longo.

Adnot. Species est inter congeneres eximia, elegans, nitida atque tersa.

5. *Eranthemum strictum* Colebr.: caule suffruticoso foliisque elliptico-oblongis utrinque acuminatis subtùs pubescenti-scabris, spicis in caule ramisque terminalibus elongatis, bracteis quadrifariis patulis oblongis ciliatis, antheris inclusis.—*Eranthemum strictum* Colebrooke, Wall. in Roxb. Fl. Ind. ed. Car. et Wall. I. p. 114. R. et Sch. S. V. Mant. I. p. 152. Willd. Sp. Pl. ed. 2. I. p. 448. Wall. Cat. n. 2494 b. *Eranthemum montanum* Wall. Cat. n. 2492 a ex parte. *Justicia montana* Herb. Heyn. (in Wall. Cat. n. 2492 a.)

In montibus, Sillet conterminis, unde a. 1813 in Hortum bot. Calcuttensem illatum, floret Januario, Februario et Martio mensibus. (Wallich.)—Vidi exemplum cultum ex H. b. Calc., et Herb. Heyn.

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* A *γυμνος nudus,* et *σταχυς spica,* propter spicas bracteis exiguis præditas ideòque primo adspectu quasi *nudas,* bracteolis autem omninò destitutas.

Spicis 1—1½ pedem longis, *Lythri Salicariæ* ferè similitudine, bracteis oblongo-lanceolatis ciliatis, approximatis nec verò imbricatis, veluti foliaceis, benè distinctum est. Corolla pollice longior, saturatè cœrulea, tubo angusto incurvo pubescente longo.

6. ***Eranthemum montanum*** Roxb.: caule teretiusculo foliisque oblongis utrinque attenuatis repando-crenatis glabris, pedunculis terminalibus trichotomis spicisque pubescenti-viscidis, bracteis lanceolato-attenuatis ciliatis.

Stirps maximè variabilis. Variat

α. spicis laxioribus, bracteis distantibus, e basi oblongo-lanceolata longissimè attenuatis.—*Eranthemum montanum* Roxb. Fl. Ind. ed. Car. et Wall. I. p. 110. R. et Sch. S. V. Mant. I. p. 150. Willd. Sp. Pl. ed. 2. I. p. 446. Wall. Cat. n. 2492 b. *Ruellia varians* Herb. Heyn. Wall. l. c.

β parabolicum: spicis laxioribus, bracteis distantibus minoribus, inferioribus e basi elliptica in breve obtusumque acumen productis, foliorum quoque acumine obtusiore, inflorescentiâ villosâ et glandulosâ.—*Eranthemum montanum* Wall. Cat. n. 2492 a ex parte. Heyne Herb. l. c.

γ. spicis brevibus lanceolatis, bracteis imbricatis, e basi oblongo-lanceolata vel oblonga longè attenuatis, hirsutis et valdè glandulosis. —*Eranthemum montanum* Wall. Cat. n. 2492 d. *Eranthemum Wightianum* Wall. Cat. n. 2495 b. *Eranthemi* sp. Wight Herb. propr. n. 81. *Justicia pulchella* Herb. Wight. Wall. l. c. *Justicia divaricata* Herb. Madr. Wall. n. 2492 d.

δ. spicis brevioribus, bracteis majoribus latioribus patulo-imbricatis oblongo-acuminatis ciliatis, glandulis magìs dispersis, foliis brevioribus ellipticis caulisque angulis scabris.—*Eranthemum montanum* Wall. Cat. n. 2492 c. *Justicia montana* Röttl. Wall. l. c.

Crescit in montibus tractuum *Circars* dictorum, floretque tempore frigido. (Roxb.)—Vidi exempla var. *α* ex Herb. Heyn.;—var. *β* in eodem Herb. cum *Eranthemi crenulati* et *stricti* speciminibus mixtam;—var. *γ* in Herb. Wight. propr. et Wall., e montibus Dindygul et Courtallum, et in Herb. Madr.;—var. *δ* exempl. Röttler. in Herb. Wall. n. 2492 c.

Caulis herbaceus, erectus, leviter tetragonus, ad speciem teres, trichotomus. Folia 6—4 poll. longa, 2—1¼ p. lata, petiolo longo, nitida. Inflorescentia trifida, ramis trifidis folio brevioribus vel id æquantibus, medio duplò longiore, tetragonis. Bracteæ ½—1 poll. longæ, herbaceæ, glanduloso-pubescentes et ciliatæ. Spicæ laterales pleræque in capitula oblonga triflora contractæ; media oblongo-lanceolata, pollicaris, pauciflora. Calyx 3 lin. longus. Corolla 1—2-uncialis, cœrulea (?), glabra vel parciùs puberula, tubo gracili, limbo patente. Fructus ......

Adnot. Singularis in hac specie, quod inflorescentia sola abruptè glandulis vestiatur, et corolla, quæ in aliis Eranthemis rariùs glabra reperitur, in hac sæpè glabrescat.

7. ***Eranthemum Wightianum*** Wall.: fruticosum, caule tetragono pubescenti-tomentoso, foliis ovatis utrinque acutis glabris, floralibus subrotundis, spicis terminalibus corymbosis, bracteis lineari-lanceolatis acutis strictis pubescenti-scabris.—*Eranthemum Wightianum* Wall. Cat. n. 2495 a. *Eranthemum montanum* Herb. Russell.—Wight Herb. propr. n. 83, absque nomine.

E montibus Dindygul et Courtallum. Wight, Hb. Russell.

Frutex. Folia ramorum speciosa, ampla, inferiora elliptica, 6 poll. longa, 2½ p. lata, petiolo sesquipollicari; sequuntur magìs ovata, 8-pollicaria, 3½ p. lata, breviori petiolo; suprema ovato-subrotunda, 4 p. longa; ramulorum folia ¾ poll. longa et lata. Spicæ in ramulis compositæ, circa caulis et ramorum apices in corymbum densum polystachyum congestæ: inferiores circiter pollicares, lanceolatæ; superiores extenuatæ, 2—3-pollicares, lanceolatæ. Bracteæ ½-pollicares; bracteolæ calyce (membranaceo) longiores, oppositæ. Corollæ alabastrum vidi semipollicare, pube glandulosâ inspersum, tubo longo gracili. Capsula omninò generis. Semina orbiculata, mucronata, utrinque plana, ruguloso-rimulosa, fusca.

Species Indica hujus subdivisionis, a me ad naturam non examinata,—est:

8. ***Eranthemum suffruticosum*** Roxb.: fruticosum erectum, foliis ovato-oblongis glabris, spicis terminalibus, bracteis cuneiformibus nudis, staminibus duobus inclusis. Roxb. Fl. Ind. ed. Car. et Wall. I. p. 112. R. et Sch. Mant. I. p. 151. Willd. Sp. Pl. ed. 2. I. p. 446. n. 22.

Habitat in insulis Andaman. (Roxb.) ♄.

b. Parvibracteata.

9. ***Eranthemum crenulatum*** Wall.: suffruticosum, erectum, caule infernè foliisque oblongis utrinque acuminatis repando-crenatis glaberrimis, racemo terminali simplici pluribusve axillari-aggregatis simplicibus, floribus fasciculato-congestis subverticillatis secundisve, bracteis bracteolisque subulatis brevibus calycibusque glanduloso-scabris, corollæ laciniis ovatis obtusis æqualibus.

α. caule ad inflorescentiam usque glabro, racemis verticillatis erectis.—*Eranthemum crenulatum* Wall. in Bot. Reg. t. 876. Spr. Cur. Post. in Syst. V. p. 19. Willd. Sp. Pl. ed. 2. I. p. 448. Wall. Cat. n. 2491 a, b, c, d, e.—et 2492 a ad partem.—*Justicia honamoriensis* Herb. Madr. Wall. Cat. n. 2491 a.

β glandulosum: racemo terminali bi-trifido recurvato-patente, floribus sursùm secundis; caule sæpè ad inferiores articulos usque glanduloso-scabro, humiliore.—*Eranthemum glandulosum* Wall. Cat. *Justicia rubicunda* Herb. Hamilt. Wall. Cat. n. 2480.

Crescit in Sillet, in Penang (G. Porter).—Var. *β* ad ripas Attran fluvii supra Ussame, d. 29 Martii a. 1827, ad Amherst, et inter Amherst et Chappedong; in Mateabo d. 15 Apr. 1828, cl. Hamilton.—Vidi exempla ex H. b. Calc., ubi e Penang illatum est (n. 2491 c); e Penang (2491 d.); ex Herbb. Wight. (2491 c.) et Heyneano (2491 b.); ex Herb. Madr.

Species est variabilis, sed distincta cortice laxo brunneo ramorum adultiorum (præsertìm in siccis), et racemo (vel spicâ) glanduloso-pubescente, ob fasciculos florum oppositos subverticillato, corollæ limbo regulari, ratione tubi parvo. Corolla pallidè lilacina.

Variat: 1°. Magnitudine. Exempla Herb. Madr. cæteris minora, vix pedalia, foliis minoribus rigidulis.

2°. Pubescentiâ glandulosâ inflorescentiæ magìs minùsve ad inferiores articulos descendente, proximis circa radicem tamen semper cortice illo lævi et quasi tumente pallidè brunneo vestitis. In exemplo, quod *Justiciæ rubicundæ* Hamilt. sub nomine vidi, caulis glabrescens; sed similia quoque Gomezius attulit exempla.

3°. Fasciculis florum, ubi rami racemi terminalis patent et recurvantur, sursùm adscendentibus.

10. ***Eranthemum graciliflorum:*** herbaceum (?) erectum, caule punctatis exasperato, foliis ovalibus cuspidatis in petiolum longum desinentibus repando-subcrenatis subtùs ad costas scabris, racemo terminali simplice ternisve spiciformibus rhachi multisulcata, floribus spiratìm subverticillatis confertis, bracteis bracteolisque subulatis brevibus calycibusque scabris, corollâ subbilabiatâ laciniis ovatis obtusis.—*Justicia graciliflora* Wall. Cat. n. 2427.

In montibus provinciæ Penang, ad fluvium Kosea legit G. Porter.

Primo sub intuitu *Eranthemum crenulatum* refert, situ loci et inflorescentiâ ad monstrositatem fasciatam tendente difforme; sed plurima sunt, quæ speciem propriam esse probare videantur.—Caulis, secundum schedulas Porteri, humilis, herbaceus, erectus, subsimplex, tetragonus. Folia ampla, inferiora cum petiolo 3-pollicari 9—10 poll. longa, 3 poll. lata, superiora parùm decrescentia. Racemus terminalis foliis brevior, 4 poll. longus, adjecto uno binisve brevioribus. Corollæ, plurimæ spiratìm simul florentes, sesquipollicares, glabriusculæ, pallidè purpureæ (?), tubo æquali filiformi.

Adnot. *Eranthemum racemosum* Roxb. Fl. Ind. ed. Car. et Wall. I. p. 113. n. 5. multa communia habere, sed ex omni parte minus esse videtur.

Species Indicæ hujus subdivisionis, a me non examinatæ, sunt:

11. ***Eranthemum racemosum*** Roxb.: suffruticosum, foliis oblongis ventricosis, corollâ subbilabiatâ, labio utroque partito.—Roxb. Fl. Ind. ed. Car. et Wall. I. p. 113. R. et Sch. Mant. I. p. 152. Willd. Sp. Pl. ed. 2. I. p. 447. n. 24.

Habitat in Moluccis. (Roxburgh l. c.) ♄.

12. *Eranthemum cinnabarinum* Wall.: foliis oblongo-ellipticis attenuatis longissimè acuminatis glabriusculis, racemis terminalibus recurvato-patentibus paniculatis, bracteis setiformibus, floribus subsessilibus secundis, corollæ laciniis ovatis.—Wall. Pl. As. Rar. I. p. 20. Willd. Sp. Pl. ed. 2. I. p. 449. n. 28.

Habitat ad Trogla in provincia Martabania, miliari spatio a Saluen fluvio. ♄. (Wallich.) Corolla lætè rubra ab *Eranthemi crenulati* var. β jam primò intuitu distinguitur.

?13. *Eranthemum diantherum* Roxb.; suffruticosum erectum, foliis latè lanceolatis utrinque attenuatis glabris, racemis terminalibus ex umbellulis pedunculatis, corollâ subbilabiatâ, antheris didymis.—Roxb. Fl. Ind. ed. Car. et Wall. I. p. 112. R. et Sch. Mant. I. p. 151. Willd. Sp. Pl. ed. 2. I. p. 447. n. 23.

Habitat in Moluccis. (Roxburgh.) ♄.

?14. *Eranthemum palatiferum:* fruticosum, erectum, foliis oblongis acuminatis subintegerrimis brevipetiolatis glabris, racemis terminalibus subternis spiciformibus recurvis, floribus erecto-secundis, bracteis bracteolisque subulatis brevibus, corollâ bilabiatâ, staminibus binis (?).—*Justicia palatifera* Wall. Pl. As. Rar. I. p. 80. t. 92.

Habitat in montibus prope Sillet, ubi detexit Fr. de Silva, indeque in Hortum botanicum Calcuttensem a. 1825 introduxit. Floret Martio et Aprili. Fructus maturescunt Majo.

Ipse non vidi; sed sufficit icon citata elegantissima. Flores, *Eranthemi picti* ad modum in lacinia media labii inferioris maculâ notati. Stamina duo tantùm observata sunt.

XLVII. JUSTICIA.

Justicia Linn. ex parte minima.

Calyx ad basin ferè quinquepartitus, parvus, laciniis æqualibus. Corolla bilabiato-hypocrateriformis, tubo longo, labio superiore angusto reflexo, inferiore trifido laciniis æqualibus. Stamina duo; antheræ bilocellatæ, locellis parallelis basi subinæqualibus muticis. Capsula basi compressa asperma, apice dilatata depressa ovata cuspidata bilocularis *disperma*. Semina profundè cordata, margine elevato cincta, compressa, tuberculata, retinaculis suffulta. Retinacula uncinata, valida.—Inflorescentia: spica terminalis, bracteis herbaceis demùm deciduis latis, floribus oppositis solitariis, bracteolis parvis subulatis.

1. *Justicia Ecbolium* Linn.: spicâ terminali tetragonâ, bracteis ovalibus integerrimis ciliatis mucronatis fructum æquantibus, foliis elliptico-oblongis utrinque attenuatis pubescentibus, labio superiore lineari reflexo.—Linn. Fl. Zeyl. p. 17. Sp. Pl. I. p. 85. Fabr. Helmst. p. 217. Mill. Dict. n. 8. Willd. Sp. Pl. I. p. 85; ed. 2. I. p. 365. n. 1. excl. synon. Rheed. et Plucken. R. et Sch. S. V. I. p. 144. Vahl Symb. I. p. 2. II. p. 14. Ait. H. Kew. ed. 1. I. p. 26. Willd. En. Fl. Ber. I. p. 117. Link En. I. p. 29. n. 224. Bot. Mag. n. 1847. Burm. Fl. Ind. p. 7. Wall. Cat. n. 2432 i, k. (Herb. Madr. et Heyn.) *Carmantine à crochet* Lam. Enc. Méth. I. p. 626. n. 2. *Adhatoda spica longissima, flore reflexo,* Burm. Thes. Zeyl. p. 7. t. 4. f. 1. *Arbor Zeylanica, floribus cœruleis in spica dispositis,* Herm. Mus. Zeyl. p. 33. *Adhatoda Zeylanica, plantaginis folio,* Herb. Garcin.

Crescit in Zeylona insula, Burmann. An etiam in Indiæ orientalis continente? In Indiæ nemoribus, Roxburgh, fide herbarii; sed reliquorum collectionum exempla omnia ad *Justiciam dentatam* n. 3. spectant.

Hæc vera est *Justicia Ecbolium* Linn., cui bracteæ sunt evidenter ciliatæ et integerrimæ. Pubescentia caulis et foliorum subtilissima quidem, sed satìs densa, oculos facilè effugere potuit.—Folia 3—3½ poll. longa, poll. 1—1¼ lata, attenuata quidem, sed obtusa. Bracteæ unguiculares, obtusæ, mucronatæ. Tubus corollæ bracteâ duplò longior; limbus tubum dimidium æquans. Capsula vix semipollicaris.

2. *Justicia rotundifolia:* spicâ terminali tetragonâ, bracteis subrotundis subdenticulatis mucronatis fructu duplò brevioribus foliisque elliptico-ovatis obtusis glabris, labio superiore lineari reflexo.—*Justicia Ecbolium* Herb. Wight. Wall. Cat. n. 2432 l. Wight Herb. propr. n. 77 ex parte.

Crescit in humidis provinciæ Tanjore prope Negapatam, frequentissimè. (Wight.)—Floret per totum annum.

Species est, a *Justicia Ecbolio* benè distincta: caule humiliore, foliis parvis, 1½—2 poll. longis, sessilibus obtusis elliptico-subrotundis; bracteis subrotundis apice rotundatis basi nonnihil attenuatis, inæqualiter argutè denticulatis, brevi mucronulo præditis, capsulâ semper brevioribus; corollâ minore, labii inferioris laciniis obovatis, superiore labio subulato. (*J. Ecbolii* labii inferioris laciniæ ovales, superius labium lineare bidentatum.)

Hæc fortassè, cum *Justicia Ecbolio* confusa, definitionem Linneanam obscuram reddidit.

3. *Justicia dentata* Klein.: spicâ terminali tetragonâ, bracteis ovatis longè cuspidatis eroso-dentatis pubescentibus capsulam æquantibus, foliis elliptico-oblongis utrinque attenuatis glabris, labio superiore lineari reflexo.

α. bracteis obiter dentatis.—*Justicia livida* Herb. Hamilt. Wall. Cat. n. 2432 e. *Justicia fasciculata* Herb. Russell. Wall. Cat. n. 2432 h.

β. bracteis evidenter et profundè dentatis.—*Justicia dentata* Klein in Herb. Willd. Link Jahrb. d. Gewächsk. I. 3. p. 49. Schult. Mant. I. p. 130. n. 8 a. Willd. Sp. Pl. ed. 2. I. p. 366. *Justicia Ecbolium* Wall. Cat. n. 2432 b, c. Herb. Wight. n. 77 ex parte.

Crescit in nemoribus Indiæ. In Segaen ripæ Irawaddi, a. 1826; in ripa Gangetis ad Paturgatta, a. 1820. (Wall.)—In H. b. Calc.

Folia basi cuneiformia, apicem versus attenuata; bracteæ longè cuspidatæ, inæqualiter eroso-dentatæ, puberulæ. Corollæ tubus longissimus, laciniis ovalibus, labio superiore lineari. Capsula bracteam æquans vel parumper tantùm excedens.

4. ? *Justicia ptychostoma* Wall.: spicis in caule ramisque terminalibus angustis basi diphyllis, bracteis orbiculatis petiolatis venoso-reticulatis ciliatis mucronulatis deciduis, foliis ovali oblongis obtusè cuspidatis glabris, corollâ . . . .—*Justicia ptychostoma* Wall. Cat. n. 2478.

In Penang legit G. Porter.

Exemplum incompletum hujus esse generis, ex sola inflorescentia et residua capsularum nonnullarum parte infera asperma commissurâque planâ instructa, conjicio.

Frutex, ramis gracilibus longis, supernè acutiùs tetragonis, articulis longis. Folia opposita, inæqualia: alterum 6—8 poll. longum, 2¼ latum, alterum 3—4½ p. longum; cæterùm conformia; petiolo pollicari. Rami axillares oppositi vel alterni, terminales quini, spicigeri, aliquot pollicum, basi longè aphylli, apice diphylli foliis inæqualibus 3- et 1½-pollicaribus: terminalium ramorum intermedius brevior aphyllus, exteriores 2 longiores, tum 2 longissimi, monostachyi iterùmve divisi. Spicæ 1—2-pollicares, dum bracteis tectæ tetragonæ. Bracteæ 2—2½ lin. longæ. Bracteolæ calyce, vix 1¼—1½ lin. longo, dimidiò breviores, triangulari-lanceolatæ. E corollæ destructæ vestigiis semipollicarem eam fuisse auguror; nomen autem labium plicatum prodere videtur. Germen glabrum, annulo glabro cinctum, quadriovulatum. Capsulæ residua a basi asperma, valvulis plano-contiguis.

XLVIII. RHINACANTHUS *.

Justiciæ spp., Linn., Wall.

Calyx regulariter quinquepartitus, bracteis bracteolisque parvis subulatis. Corolla hypocrateriformi-bilabiata, tubo longo gracili, labio superiore angusto, infero trifido laciniis æqualibus. Stamina duo, faucibus inserta; antheræ bilocellatæ muticæ, locello altero supra alterum serie ferè lineari posito. Capsula clavata, basi longo tractu compressa, commissurâ valvularum contiguâ, asperma; in parte superiore quadriovulata, tetrasperma vel abortu disperma. Dissepimentum completum, adnatum. Semina ovata, biconvexa, retinaculis suffulta. Retinacula concava, obtusa.—Inflorescentia: paniculæ axillares in terminalem transeuntes, trichotomæ, ramis bifidis. Flores circa apices ramulorum agglomerati vel brevispicati, albi.—Frutices.

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* "Acanthus flore nasuto," a ῥιν et ακανθος.

1. ***Rhinacanthus communis:*** paniculis axillaribus terminalique trichotomis, labio superiore lineari recto, foliis ovato-oblongis.

α. glabra vel pubescens, foliis oblongis utrinque æquè attenuatis cauleque glabriusculis, paniculis lateralibus sæpè dichotomis.—*Justicia nasuta* Linn. Sp. Pl. p. 63. Willd. Sp. Pl. ed. 2. I. p. 383. R. et Sch. S. V. I. p. 156; Mant. I. p. 139. Roxb. Fl. Ind. ed. Car. et Wall. I. p. 121. Blume Bydr. p. 785. Wall. Cat. n. 2440 a—d, f, g; et n. 2498 b. (ex parte, casu admixta.) Wight Herb. *Carmantine tubuleuse* Lam. Enc. Méth. I. p. 601. n. 31. (excl. var. β.)—*Pulcolli* Rheed. Hort. Mal. IX. p. 135. t. 69.

β. magìs minùsve villosa, foliis ovato-oblongis, basi minùs angustatis, ratione longitudinis latioribus, paniculis lateralibus trichotomo-dichotomis, ramis scandentibus (?).—*Justicia scandens* Vahl Symb. II. p. 7. Enum. I. p. 131. Willd. Sp. Pl. ed. 2. I. p. 383. R. et Sch. S. Veg. I. p. 150. Poir. Enc. Méth. Suppl. II. p. 103. n. 66. Wall. Cat. n. 2440 e.

Crescit var. *α* in Madras et Negapatam, culta verò et vix indigena iis locis. Wight in litt.—" Non nisi in hortis inveni, neque scio unde sit introducta. Floret per totum annum, sed nunquam maturat fructus." Roxburgh.—" Ad sepes. Floret omni tempore." Blume.—Nomen Sanscr. *Yoothíca-púrnee.* Bengal. *Jóoi-pana.* Teling. et Tamul. *Naga-mulli* (i. e. *Jasminum Cobræ de capella*). Roxb.—Javan.: *Trebe Japan, Kalawara Damon Sarong Burung.* Blume.—Vidi exempl. H. b. Calc.; tum e collibus Deyræ vicinis exempla, *Petalidio barlerioidi* (Wall. Cat. n. 2498 b.) admixta. In Govindgunga et Daudnaghur: Hamilt. In Madras: Wight.—Var. β spontanea in angustiis nemorosis montium Paulgāt churý chita (Wight). In montibus Promæ 1826. Et in Herb. Madr.

Var. β pubescentiâ magìs minùsve conspicuâ in caule paniculisque villosula, et foliis magìs ovatis, sed nullâ aliâ re differre videtur. Capsulæ, in hac var. obviæ, clavatæ, apice compressiusculæ, obtusè mucronatæ, pubescentes, tetraspermæ, abortu dispermæ; semina obovata, utrinque convexa, basi inæquali angusta emarginata.

2. ***Rhinacanthus Röttlerianus:*** caule scaberrimo, paniculâ terminali corymbosâ trifidâ, labio superiore lineari recto, foliis oblongo-cuneiformibus obtusis.—*Justicia Röttleriana* Wall. Cat. n. 2477.

Ex Herbario Madraspatano.

Differt a *Rhinacantho communi,* cui admodùm similis est: ramis gracilioribus, lineolis confertissimis elevatis setulisque incurvis scaberrimo, ramis florentibus axillaribus paucis aut nullis, sed ternis terminalibus longioribus gracilioribus dichotomis fastigiatis, paniculam corymbosam constituentibus; foliis (mediis saltèm) brevissimè petiolatis, ex oblongo ovalibus basi cuneatìm attenuatis, apice vel obtusis vel brevissimè acutis, confertìm lineolatis, cæterùm glabris, superioribus lanceolato- vel oblongo-cuneiformibus sessilibus; limbo corollæ, ratione tubi, paullò breviore. Calycis, bractearum, corollæ, staminum reliqua structura non differt.

3. ***Rhinacanthus calcaratus:*** paniculâ terminali trichotomâ, labio superiore lineari-attenuato incurvo apice angustissimè bifido, foliis ovali-oblongis.—*Justicia calcarata* Wall. Pl. As. Rar. II. p. 9. t. 113. Cat. n. 2426 a, b.

In montibus provinciæ Sillet legit Fr. de Silva. Floret mense Martii.

Proximè affinis *Rhinacantho communi,* sed speciosior. Caulis (ramus) strictus, simplex, tetragonus, glaber, medullâ farctus. Folia 7—8 poll. longa, $2\frac{1}{2}$—$2\frac{3}{4}$ poll. lata, basi in petiolum brevem crassum trigonum desinentia, nitida, penninervia. Panicula (semipedalis in nostro exemplo) ex omni parte subtilissimè glanduloso-pubescens. Bracteæ a $2\frac{1}{2}$—$1\frac{3}{4}$ lin. longitudine in bracteolas decrescentes. Calyx 2 lin. longus. Corolla pollicaris, pubescens, alba, formæ præcedentium, tubo æquali filiformi. Ovarium pubescens, annulo nectarifero crasso cupulari margine glabro integroque cinctum.

Subtribus VI. DICLIPTEREÆ.

BLECHUM *Juss.*

Ruelliæ specc., Linn.

Calyx profundè quinquefidus regularis. Corolla infundibuliformis; tubo longo subæquali, limbo brevi regulari quinquefido patulo rotundato. Stamina quatuor inclusa, tetradynama tubo ferè medio inserta. Antheræ bilocellatæ, ovales, muticæ, locellis parallelis subæqualibus. Capsula ovata, subventricosa, utrinque convexa, a basi seminifera, bilocularis, juxta basin octo-pleiosperma. Dissepimentum completum, a dorso valvulæ demùm solubile, corniforme unà cum retinaculis validis delabens, a basi capsulæ clausa articulatìm discretum. Semina suborbiculata, compressa, pelliculâ mucilaginosâ vestita.—Forma anomala: Capsula longiori spatio a basi compresso-clausa, tetrasperma. Dissepimentum basi discretum, sursùm adhærens, (tamen separabile); demùm elasticè assurgens, retinaculis in parte libera persistentibus terminalibus.—Inflorescentia: spicæ, rariùs axillares, plerisque terminales, crassiusculæ vel crassæ. Bracteæ latæ, herbaceæ, quadrifariæ, plerisque ciliatæ, fasciculum glomeralem florum (ternorum vel binorum) tegentes, cui utrinque bractea angustior opposita. Bracteolæ ad basin florum lateralium singuli fasciculi subpedicellatorum binæ, parvæ, calycis laciniis subsimiles. Herbæ pleræque Americæ tropicæ; una species Insulæ Luzon indigena.

Adnot. 1. Genus hoc in continente Indiæ orientalis, uti videtur, non obvium, haud omninò tamen ex orbe vetere exulat; cujus rei testem habeo Herbarium Hænkeanum, speciem hujus generis, in *Luzona* insula lectam, eamque Americanis ejusdem generis speciebus valdè similem ostendens.

Adnot. 2. Inflorescentia Blechi, a Rungiæ inflorescentia (quam vide infrà expositam) non adeò discrepat, ac primò quis intuitu existimaret. Etenim si cautè explicaveris unam bracteam cum florum apparatu, quem tegit, hæc invenies: 1°, bracteam majorem, ramuli rudimentum foventem; 2°, bracteas duas minores angustiores, secundi ordinis, rami dichotomiæ ita subjectas, ut florem medium, seu inferiorem et interiorem, seriùs explicatum, sensu opposito amplectantur; 3°, florem, a latere majoris bracteæ positum, multò prius expansum, cum binis ad basin pedicelli bracteolis angustis; 4°, alterius lateris, i. e. rhachi oppositum flocculum reperies vel nullum omninò vel multò imperfectiorem. Habes igitur spiram (Rungiæ) ramuli tetraphyllam bracteæ majori subjectam.

1. ***Blechum Luzonium:*** foliis ovatis integerrimis suprà strigosis, spicis terminalibus ovatis tetragonis, bracteis subrotundo-ovatis acutis ciliatis bifloris.—N. ab E. in Reliqu. Hænkean. ined.

In Luzona insula legit b. Hænke. Vidi exempl. Herb. Hænk. in Museo Pragensi.

Proximum in serie specierum *Blechum Linnæi* mihi: foliis ovalibus lineolatis serrulato-ciliatis subintegerrimis, spicis axillaribus terminalibusque tetragonis, bracteis ovatis longè ciliatis bi-trifloris, corollis bracteas superantibus, l. c. ined. Lin. Amœn. Acad. v. p. 400, a *Blecho Brownei* Juss. satìs supèrque eo differente, præter characteres, suprà adnotatos, etiam sequentibus: foliis longiùs petiolatis ovatis bracteisque latioribus setis distantibus adspersis; a reliquis autem, (scil. *Blecho Brownei* Juss., *Hænkei* N. ab E., *blechioide,*) non solùm foliorum latitudine, sed etiam marginibus istorum ferè integerrimis. Reliqua l. c. pluribus exposita invenies.

XLIX. RUNGIA.

Justiciæ spp., Linn., Wall. *Diclipteræ* specc. (subdiv. 3.) Juss.

Calyx quinquepartitus, regularis. Corolla bilabiata, labio superiore bidentato, inferiore trilobo palato biplicato. Stamina duo. Antherarum locelli obliquè alter super altero positi: inferior appendice orbiculata lamellari instructa. Capsula bivalvis, bilocularis, tetrasperma, a basi seminifera; dissepimento membranaceo unà cum parietibus capsulæ lateralibus a dorso valvarum dehiscentium secedente. Semina concentricè rugosa, compressa, retinaculis suffulta, quorum inferius a basi dissepimenti reflectitur.—Inflorescentia: spica quadrifariàm bracteata, bracteis margine membranaceis, ordinum duorum superiorum vacuis, inferiorum unifloris. Bracteæ propriæ duæ, oppositæ, lineares, calyce vix longiores. Calycis laciniæ lineares, ciliatæ, membranaceæ.

Ferdinandus Runge, Philos. Dr. et Professor Vratislaviensis, Phytocheniam multis experimentis magno ingenii acumine conceptis summâque dexteritate institutis novâ luce illustravit, et doctis operibus suis amplificavit. Quorum meritorum memoriam hoc genere celebrandam suscepi.

Adnot. Genus a DICLIPTERA distinctum non modò habitu generali et floribus ringentibus spicatis, sed antheris etiam basi lobulo candido orbiculari loco calcaris appendiculatis, et capsulâ, in dehiscendo à carina dorsali cui dissepimentum adnexum erat, unà cum hoc infernè secedente.

1. *Rungia linifolia:* bracteis fertilibus sterilibusque subæqualibus conformibus ovalibus cuspidato-mucronatis aveniis subtilissimè ciliatis margine membranaceis, bracteolis lineari-subulatis, caule folisque lanceolatis obtusis scabris, spicis terminalibus pedunculatis incurvis.—*Justicia linifolia* Herb. Heyn. Wall. Cat. n. 2447.

Vidi exemplum Herb. Heyneani.

Planta tenera, gracilis. Caulis ligneæ quidem texturæ, palmaris, semipedalis, teretiusculus. Folia (rami) 8—9 lin. longa, 2½ lin. lata, sessilia; ramulorum pauca, duplò minora. Spicæ solitariæ, ¾ poll. longæ, secundæ. Bracteæ, more generis, spiratìm positæ, 1 lin. longæ. Corolla 2 lin. longa, glabra, pallidè purpurea (nec alba?), tubo cylindrico. Capsula 1 lin. longa, ovalis, depresso-tetragona, pubescens.

2. *Rungia parviflora:* bracteis fertilibus suborbiculatis cuspidatis nervoso-venosis ciliatis margine membranaceo, sterilibus ovalibus oblongisve, bracteolis membranaceo-marginatis emarginatis mucronatis, foliis lanceolatis obtusiusculis, caule diffuso repenteve, labio superiore acuto.

α. bracteis sterilibus ovali-acuminatis, acumine rigido.—*Justicia parviflora* Retz. Obs. V. p. 9. Willd. Sp. Pl. I. p. 101. *Justicia pectinata* Roxb. Pl. Corom. II. p. 29. t. 153. Fl. Ind. ed. Car. et Wall. I. p. 134. n. 30. Lam. Enc. Méth. p. 630. n. 23. Wall. Cat. n. 2458 a, b, c (ex parte), e (ex parte), g, h, i. Wight Herb. propr. n. 46. *Dicliptera cœrulea* Blume Bydr. p. 790.

β aspera: caule lineolis setulisque magìs exasperato, bracteis dorsalibus simpliciter acutis mucronulo breviore, fertilibus orbiculatis plerisque muticis flavido-marginatis.—*Justicia pectinata caule repente* Herb. Hamilt. Wall. Cat. n. 2458 c (ex parte). *Justicia pectinata* Herb. Heyn. Wall. Cat. n. 2458 f.

*β** eadem: foliis latioribus, ovatis vel ellipticis.—Wall. Cat. n. 2458 k.

γ submutica: glabra, bracteis subtrinervibus oblongo-lanceolatis subimmarginatis vix mucronatis, fertilibus obovatis.—*Justicia pectinata* Herb. Madrasp. Wall. Cat. n. 2458 e (ex parte). *Dicliptera cœrulea* var. *b.* Blume Bydr. p. 791.

Crescit *α* in pascuis humidis (Wight). In Monghir et Nihinaghur (Hamilton); in Napalia inferiore et Turraya, Napaliam versus (a. 1820, Wallich). In Moalmyne, a. 1827.—Var. *β* in montibus Sillet (F. D., et a. 1829. G. Gomez); Mahuyadabur (Hamilton). Vidi etiam in Herb. Heyn.—*β** in montibus Promæ oppositis (a. 1826).—Var. *γ* in Herb. Madrasp. vidi.—Ad pedem montis Tjerimai Javæ insulæ (Blume).

Species elegans, tota grossè lineolata. Bracteæ inferiores latiùs marginatæ, rhombeo-orbiculares. Bracteolæ calyce majores, obcordatæ, parte viridi quidem ovatâ. Calyx ciliatus, membranaceus. Corolla et capsula duplò minores, quàm in *Rungia repente.* Corolla lætè cœrulea, labio superiore ovato in acumen contracto, reliquis floris fructûsque partibus ut in illa.—In var. *β* spicæ paullò breviores, pleræque ternæ axillari-aggregatæ. Var. *β** recedit a *β* foliis ellipticis majoribus cauleque erecto (?), qui repens in illa.—Var. *γ* margine bractearum dorsalium (vix acutiuscularum) ferè nullo longiùs quidem distare videtur, sed reliqua, imprimis bracteolæ et corolla, eadem ac in illis, ipsæque bracteæ quandoque acutatæ. Folia longè petiolata.

Adnot. *Dicliptera pectinata* Vahlii certò ab hac est distincta, fortassè etiam Linneana ejusdem nominis *Justicia.*

3. *Rungia polygonoides:* bracteis communibus suborbiculatis mucronulatis trinerviis propriisque navicularibus margine lato membranaceo cinctis ciliatis, foliis inæqualibus obtusis, inferioribus ovalibus minoribus, superioribus lanceolatis, spicis axillaribus glomeruliformibus, caule basi repente.—Wall. Cat. n. 7181.

In Tavoy d. 8 Nov. a. 1827 legit Guil. Gomez, sine floribus.

Planta herbacea, formæ *Polygoni avicularis.* Folia inferiora unguicularia, superiora pollicaria; alterum singuli paris minus et sæpè difforme; omnia integerrima, ad costam et petiolos scabra. Spicæ pisi magnitudine sessiles, subglobosæ. Bracteæ omnes fertiles (?), subrotundæ. Bracteolæ ut præcedentis. Calyx membranaceus, quinquefidus, laciniis ciliatis.

4. *Rungia origanoides:* bracteis communibus orbiculatis muticis villosis margine lato membranaceo cinctis, propriis duplicibus, interioribus linearibus, exterioribus navicularibus obtusis subtomentosis, spicis axillaribus sessilibus secundis brevibus, foliis lanceolatis obtusis glabriusculis.—*Justicia pectinata* Blume Bydr. p. 790. Wall. Cat. n. 7182 a, b.

Crescit locis umbrosis Indiæ or., floret tempore frigido. Roxburgh.—In ripis fluvii Attran ad Nidaun et fluvii Saluen ad Meaung a. 1827. Circa Linga Jattie provinciæ Cheribon Javæ, floret Septembri etc. Blume.—Nomen Javanicum *Katumpan lanang.* Bl.

A confinibus differt: spicis, plerumque solitariis, rariùs geminis, oppositis axillaribus, circiter unguicularibus sessilibus hirto-incanescentibus; bracteis obovato-orbiculatis margine integro ad apicem latissimo, cuspide partis viridis non vel rarissimè tantùm penetrante; calyce quadribracteolato scil. intra bracteolas exteriores naviculares obtusas villoso-tomentosas marginatasque adjectis ad ipsam basin calycis aliis duabus bracteolis linearibus laciniisque calycis persimilibus, quæ magìs ad latus exterius spectantes, alterius floris rudimentum produnt. Calyx, ut in reliquis, valdè villosus. Corolla vix 2 lin. longa, lætè cœrulea (Roxb.). Capsula lineam longa, alba, glabra.

5. *Rungia repens:* bracteis ovatis cuspidatis enervibus margine lato argenteo subciliato, bracteolis lanceolatis, foliis oblongo-lanceolatis acutis, caule repente.—*Justicia repens* Linn. Fl. Zeyl. p. 20. Burm. Fl. Ind. p. 8. Roxb. Fl. Ind. ed. Car. et Wall. I. p. 133. Wall. Cat. n. 2459 a—g. Wight Herb. n. 45. *Dicliptera retusa* Juss. in Ann. du Mus. IX. p. 269. *Dicliptera repens* R. et Sch. S. V. I. p. 171. Mant. I. p. 148. Willd. Sp. Pl. ed. 2. I. p. 427. Rob. Br. Prodr. Fl. N. Holl. ed. N. ab E. I. p. 332. *Carmantine rampante* Lam. Enc. Méth. I. p. 629. n. 22. Ill. Gen. n. 126. Poir. Suppl. II. p. 109. n. 102. *Adhatoda spicata flosculos ex foliolis membranaceis producens* Burm. Thes. Zeyl. p. 7. t. 3. f. 2.

β villosa.—*Justicia repens var.* Herb. Madr. Wall. Cat. n. 2459 b ex parte.

Crescit in pascuis Indiæ orientalis; floret tempore pluvio frigidoque (Roxburgh). In pascuis humidis Cannanoræ frequens (Wight Herb.); in Chitledroog (Heyne); Rajmahal (Wallich); in Munghir, d. 26 Sept. a. 1811, et in Balahat (Hamilton). In Zeylona insula (Burmann).—Var. *β* in Herb. Madrasp. vidi.

Flores pallidè rosei, parvi.—Var. *β* differt modò caule cum foliis bracteisque villosis, foliis nonnihil latioribus.

6. *Rungia Wightiana:* bracteis venosis margine apicem versus hyalinis subtilissimè ciliatis, sterilibus oblongis acutiusculis, fertilibus rhombeo-cuneiformibus obtusis, bracteolis membranaceis ovalibus mucronulatis, foliis ovato-oblongis apice valdè attenuatis, spicis laxis terminalibus, caule herbaceo.—*Justicia Wightiana* Wall. Cat. n. 2472.

Vidi exemplum Herb. Wightiani.

Soli *Rungiæ Punduanæ* est affinis. Tota ferè glabra, foliis suprà setis crassis raris incumbentibus hispidulis, inflorescentiâ tenuissimè puberulâ. Caulis erectus. Folia media cum petiolo 2-pollicari 6 poll. longa, 1½ poll. lata, acumine longo obtuso, nervis costalibus quinis. Spica terminalis 1—3 poll. longa, basi ramosa. Bracteæ patulæ, parium obliquitate spirales, 2¼—2½ lineas longæ; steriles paullò minores. Bracteolæ lineam longæ. Corolla 3 lin. longa, tubo (an tota?) rosea. Capsula 3 lin. longa, ex ovali oblonga, basi angustior, glabra.

7. *Rungia Punduana:* bracteis rhombeo-spathulatis acutis venosis, sterilium margine exteriore, fertilium terminalibus membranaceis ciliatisque, bracteolis lanceolatis, foliis oblongis utrinque attenuatis, spicis axillaribus laxiusculis, caule fruticoso.—*Justicia punduana* Wall. Cat. n. 2453.

In Pundua legit Fr. de Silva.

Folia opposita, patentissima, 5—6 poll. longa, 1¼—1½ poll. lata, integerrima, glabra, utrinque punctulata. Spicæ pollicares vel paullò longiores, oppositæ, solitariæ vel geminæ, pedunculo brevi. Bracteæ disticho-alternæ, approximatæ, 3—3½ lin. longæ. Flores sessiles. Bracteolæ calyce paullò longiores, 3-lineares. (Corolla deest.) Germen ovatum. Capsula 2 lin. longa, oblonga, compressa, pubescens, disperma. Retinacula parva, obtusa, emarginata.

Adnot. Etiamsi flores perfecti deficiant, dubium tamen non est, quin sit hujus generis, et ejus quidem eximia atque distinctissima species.

Adjicere liceat novam ejusdem generis speciem Americanam:

Rungia ciliata: bracteis fertilibus orbiculatis in petiolum attenuatis ciliatis immarginatis, sterilibus bracteolisque lineari-spathulatis, foliis oblongo-lanceolatis utrinque acuminatis, spicis axillaribus terminalibusque partialibus umbellatim compositis, caule fruticoso.

In nemoribus humidis Serræ dos Orgãos, Januario. (Beyrich.)

Caulis fruticosus, 1½—2 pedes altus, ad genicula infractus. Folia 4—5 poll. longa, 1 poll. lata, margine scabra, subcrenulata, suprà punctulata, glabra. Spicæ partiales in axillis foliorum superiorum inchoantes denique in spicam terminalem oblongam 2—3-pollicarem aphyllam confertæ, ipsæ breves umbellatìm geminæ vel ternæ subsecundifloræ. Bracteæ fertiles 3-lineares, oppositis sterilibus brevioribus et multò angustioribus. Corolla semipollicaris, angusta, puberula, purpurea. (Fructus deest.)

Adnot. A *Rungia* (*Justicia* L.) *repente* differt bracteis evidentiùs ciliatis, foliis angustioribus, corollis minoribus; a *R. Brasiliensi* (*Dicliptera br.* Spr.) caule, præter lineas setulosas, glabro, spicâ terminali, bracteis venosis, neque nervosis, ciliatis, corollæ labio inferiore latiore trifido.

L. DICLIPTERA, *Juss.*

Justiciæ specc., *Linn. et Auctt.*

Calyx quinquepartitus, æqualis, in capitulo bracteato sessilis. Corolla resupinata, bilabiata, labiis planis vel concavis, superiore (post conversionem) tridentato, inferiore integro vel bidentato. Antheræ bilocellatæ, locellis altero pone alterum positis muticis semiovalibus, post pollen ejectum membranaceis undulatis (nec contortis). Capsula bivalvis, bilocularis, basi brevi spatio compressa unguiculata asperma, commissurâ valvularum planâ; apicem versus depressa, dorsò valvularum angusto plano, tetrasperma;—vel sessilis juxta basin tetrasperma. Dissepimentum maturo fructu a dorso valvularum parietibusque discedens arcuque adscendens, retinacula ad apicem elevans. Semina retinaculis suffulta, discoidea. Retinacula uncinata.—Inflorescentia: capitula, bracteis involucralibus plurium ordinum, exterioribus binis oppositis majoribus, inclusa, in umbellulas axillares et denique terminales flabellatìm disposita.—Caulis plerarumque sexangularis. Flores quales in PERISTROPHE, sed minores.

1. *Dicliptera parvibracteata:* foliis ovatis acuminatis basi acutis suprà lineolatis setulis adspersis, pedunculis axillaribus subgeminis umbelliferis, radiis simplicibus trifidisve, floribus capitatis ternis, involucri diphylli foliolis lanceolatis calyces vix æquantibus.—*Justicia umbellata* Wight Herb. propr. n. 51.

In terris *Circars* dictis, ad Rajahmundry. (Wight l. c.)

Folia (superioris caulis partis) cum petiolo ¾ pollicis 3 poll. longa. Bracteæ primæ divisionis unguiculares oblongæ, petiolatæ; secundæ, s. umbellulæ, lineari-subulatæ, scabræ. Capitula seminis Cannabis mole, bi-triflora; bracteæ involucrales tot, quot flores, oblongo-lanceolatæ, calyce (1½-lineari) breviores; bracteolæ duæ lineares ad basin calycis. Corolla circiter 4 lin. longa, pallida, glanduloso-puberula. Calyx glandulis scaber.—Fructus . . .

Species distincta, sed ad exempla nostra non ritè explicanda.

2. *Dicliptera cuneata:* foliis ovatis basi acutis cauleque minutè lineolatis glabris, pedunculis axillaribus petiolo longioribus tri-quinquefidis, capitulis subbifloris, bracteis cuneiformibus mucronatis trinervibus pubescenti-scabris margine nudis.—*Justicia umbellata* Wall. Cat. n. 2467 a, c, d. Herb. Wight. propr. n. 50. *Justicia chinensis var. β.* Herb. Hamilt. Wall. Cat. n. 2466 b ex parte. *Justicia latebrosa* Herb. Wight. Wall. Cat. n. 2467 d.

Crescit in Travancore (Herb. Madr.); in Courtallum (Wight l. c.); in Muniyari (Hamilton).

Similis *Dicliptera parvibracteatæ* et *D. bupleuroidi;* differt a priore radice annuâ et bracteis mucronulatis pubescentiâ minutâ subglandulosâ scabris, nec aristatis atque ciliatis; a posteriore bracteis non ciliatis, basi magìs attenuatis, bracteolis calycibusque minùs acuminatis, neque adeò ferè capillaceis. Bracteolæ duæ setaceæ cingunt calycem. Corolla 4—5 lin. longa, pubescens, purpurea, labiis subæqualibus oblongis obtusis integris (?). Capsula pubescens, unguiculata, sursùm elliptica. Retinacula falcata.—Caulis a basi ramosissimus.

3. *Dicliptera bupleuroides:* foliis ovatis acuminatis basi acutis suprà lineolatis glabris, pedunculis axillaribus simpliciter compositève umbelliferis, floribus capitatis geminis, involucri diphylli foliolis inæqualibus oblongo-lanceolatis mucronatis, bracteolis acuminato-crinitis.—? *Justicia chinensis* Wall. Cat. n. 2466 d. *Justicia canescens* Wall. Cat. n. 2423. *Justicia rotundifolia* l. c. n. 2489 ex parte (incomplet.). *Lepidagathis cristata* Wall. Cat. n. 2421 a ex parte.

β. foliis angustioribus ex elliptico oblongis, pedunculis brevioribus flores quasi verticillatos exhibentibus.—*Justiciæ chinensis var. prior* Roxb. Fl. Ind. p. 126. Observ. Wall. Cat. n. 2466 b et f. *Justicia chinensis, var. γ.* Herb. Hamilt. Wall. l. c. b γ.

In Sillet legit F. D. et a. 1827 Guil. Gomez; in Napalia a. 1821 (Wallich.). In Herb. Madr. cum *Lepidagath. cristata* promiscua. Wall. Cat. l. c.—Var. β in Goalpara (Hamilton); in Sirmore (Gerard).

Caulis obsoletè hexagonus, glaber, herbaceus. Folia 3½—4½ poll. longa, 1¼—1½ poll. lata; petiolo 1½-pollicari. Pedunculi inferiores longiores, superiores denique geminati et breviores, apice flabellatìm quinquefidi; proprii ½—1½-pollicares, alii capitulo simplice, alii 3—5 brevipedicellatis. Involucri foliola 6 et 4 lin. longa. Capitulum 2-florum, bracteolis 3-linearibus. Corolla ½-pollicaris, pubescens, carnea. Capsula 2½ lin. longa; semina muricata.—In var. β pedunculi gemini vel solitarii restant, rarissimè terni.

4. *Dicliptera cardiocarpa:* foliis ovatis basi acutis suprà lineolatis glabris, pedunculis axillaribus geminis brevibus tri-quinquefidis capitulis subbifloris, involucri foliolis ciliatis inæqualibus majore obovato-cuneiformi obtuso retusove cum mucronulo, capsulâ obcordatâ hirsutâ.—*Justicia chinensis var. β.* Herb. Hamilt. Wall. Cat. n. 2466 b ex parte.

In Nihinaghur legit cl. Hamilton.

Differt a *Dicliptera riparia:* umbellulis pedunculo (brevi quidem) instructis, nec sessilibus, internodiis floralibus minùs hirsutis, neque bracteis etiam undique hirsutis sed ad margines tantùm ciliatis, capsulâ perfectè obcordatâ hirsutâque, neque (præter basin angustam) ellipticâ pubescenti-scabrâ;—a *D. Roxburghiana* bracteis majoribus ex obovato cuneatis juxta apicem latioribus, neque ad apicem leniter rotundatis, per se quidem angustioribus a basi ad apicem longè molliterque ciliatis, sæpè retusis, ab altera opposita oblonga mucronulataque latitudine et longitudine multò magìs discrepantibus; capsulâ obcordatâ, nec elliptico-orbiculari cum mucrone;—a *D. cuneata* jam e ciliis bractealibus, quibus ista caret, multisque aliis facilè distinguitur,—faciliùsque a *D. Burmanni* et *D. bupleuroide,* quibus bracteæ longiùs sunt mucronatæ, ciliis paucioribus rigidioribusque instructæ, et capsulæ multùm diversæ.

Articuli florales pubescenti-scabri. Capsula 2½ lin. longa, cordata, basi cuneiformi, densè pubescens.

5. *Dicliptera Roxburghiana:* foliis ovatis subcordatis utrinque acutis suprà substrigosis, umbellis axillaribus quaternis quinisve seriatis tri-quinquefidis, involucri diphylli foliolis inæqualibus obovatis mucronulatis ciliatis venoso-trinervibus, capsulâ ovali-subrotundâ compressâ unguiculatâ hirsutâ.—*Justicia chinensis* Roxb. Fl. Ind. ed. Car. et Wall. I. p. 125. R. et Sch. S. V. Mant. I. p. 146. (locus Fl. Roxburgh.)—Wall. Cat. n. 2466 a.

Vidi exemplum cultum ex Horto bot. Calc. in Herb. Hamilt., Novembri cum floribus capsulisque maturis decerptum.

Roxburghii verba hanc plantam mirificè adumbrant.—Similis *Dicliptera Burmanni,* sed differt: caule lineatìm pubescente, foliis majoribus longioribus petiolatis (2—2½ poll. longis ovatis), suprà parciùs strigosis; umbellis majoribus longiùs pedunculatis (decrescente exteriora versus longitudine); bracteis majoribus latioribus (5—5½ lin. longis, 2½ lin. latis,) obovato-ellipticis, basi multò minùs angustatis, nec membranaceis, obtusiusculis cum mucronulo, trinervibus, a medio ad basin ciliis multò tenerioribus præditis, (scabris, alterâ ¼ minore) capsulæ ungue ⅓ omnis longitudinis explente, reliquâ parte minùs compressâ ovali-subrotundâ mucronatâ, pube patulâ vestitâ, tetraspermâ.—Corolla ad apicem labii supini lato-linearis 3-denticulati 4 lin. longi puberula, dentibus apice barbulatis; resupinum labium latius, ovali-subrotundum.—Semina subrotunda, fusca, muriculata.

6. *Dicliptera Burmanni:* foliis ovalibus utrinque acutis suprà substrigosis, umbellis axillaribus simpliciter dupliciterve quaternis quinisve seriatis trifidis brevissimè pedunculatis, involucri diphylli foliolis inæqualibus spathulatis mucronato-cuspidatis ciliatis basi membranaceis, capsulâ orbiculari compressâ tomentosâ brevissimè unguiculatâ (dispermâ).—*Justicia chinensis* Burm. Fl. Ind. p. 8. t. 4. f. 1.! Lam. Enc. Méth. I. p. 630. n. 24.—Linn. Sp. Pl. p. 22?—Wall. Cat. n. 2466 e.

Vidi exemplum unum Herb. Wight., ex herbario Röttleriano, teste schedula addita, profectum.

Diclipteræ micranthæ confinis, sed longè distat. Caulis tetragonus, scabriusculus. Folia (superiora) ¼—1½ poll. longa, 6—7 lin. lata. Umbellæ axillares verticillos densos exhibent; pedunculi lineam longi. Capitula basi ebracteata, tri-, abortu uni-flora. Bracteæ involucrales duæ, 4½ et 2½ lin. longæ. Corolla 4 lin. longa, pubescens, rosea (?). Capsula 1 lin. longa. Semina echinulata, pallida.

Adnot. Capsulâ ferè orbiculari ab omnibus cognatis, maximèque a *Dicliptera micrantha* differt.

7. *Dicliptera riparia:* foliis ovatis basi acutis cauleque minutè lineolatis glabris, floribus verticillatis subcapitatove-axillaribus, involucri foliolis obovato-cuneiformibus retusis mucronulatis hirsutis, capsulâ unguiculatâ ovali pubescenti-scabrâ mucronatâ.—*Justicia* Wall. Cat. n. 7183 a, b.

Crescit ad Melloon et in montibus Promæ, et in ripa Attran fluvii, lecta a. 1826, d. 6 Jan., cum floribus; in Martabania, d. 6 Mart. a. 1827.

Caulis, infernè cum foliis glaber, repens, tereti-sexangularis. In singula axilla capitula florum 2—3, 2—3-flora, subsessilia, verticillum constituunt. Bracteæ involucrales duæ, (abortu) unifloræ. Bracteolæ ad basin calycis et rudimenti duæ, lineari-acuminatæ. Corolla semipollicaris, plerumque resupinata, pubescens, purpurea; faucibus inflatis. Capsula pubescens, ovalis, obtusa, basi breviunguiculata ideòque ad speciem obovato-clavata, apice depresso-tetragona, tetrasperma.

8. *Dicliptera micranthes:* foliis ovatis acuminatis, umbellis axillaribus subsessilibus tri-quinquefidis subseriatis, floribus capitatis ternis, involucri diphylli foliolis inæqualibus sessilibus oblongis partialibusque (quaternis) lanceolatis mucronato-cuspidatis basi utrinque membranaceis ciliatis, capsulâ sessili oblongo-tetragonâ.—*Justicia chinensis* Vahl Symb. II. p. 13. Wall. Cat. n. 2466.

β *laxior:* inflorescentiâ depauperatâ, pedunculis umbellularum nonnullis magìs elongatis.—*Justicia orbiculata* Wall. Cat. n. 2489 ex parte (probabiliter casu admixta).

Vidi exemplum utriusque varietatis in Herbario Wightiano.

Dicliptera parviflora e reliquis cognatis statìm distinguitur floribus ferè verticillatis a basi caulis frequentibus, verticillis villosulis, corollâ exiguâ vix bracteas excedente, et capsulâ sessili ovali-tetragonâ, neque omninò basi unguiculatâ.—Planta annua est, radice rectâ descendente tortuosâ. Caulis a basi ramosus, ramis patentissimis divaricatisque. Folia caulina media, cum petiolo pollicari, 3—4 pollices longa, 1—1¼ poll. lata; infima minora obtusaque, reliqua acuminata. Post anthesin caulis foliis ferè orbus, foliorum verticillis solis residuis vestitur. Umbellulæ breves, in caule primario extra et intra ramos glomeratæ, in ramis, ad typum communem, ternæ vel quaternæ in basi petiolari compressâ brevissimâque seriatæ, pedunculo vix lineam longo compresso suffultæ. Bracteæ rigidulæ, non nisi ad basin utrinque membranaceæ, rigido-mucronatæ. Corolla 1½ lineam vix longa, angusta, pubescens, pallida; labia ovata: supinum paullò brevius, trilobum, resupinatum obsoletè emarginatum obtusum. Capsula sessilis, lineâ paullò longior, pallida, apice pubescens.

In juventute (qualis sub var. β refertur) fallaci specie oculos decipit, præsertìm propter umbellas eo tempore adhuc in spicularum formam compactas, bracteolisque suis setaceis stipatas; quæ spicæ, cum paullò longiori pedunculo præditæ sint, spicam graminis cujusdam examussim referunt.

Adnot. 1. Ab hac posteriori specie transitus incipit in illam formarum seriem, quam species quædam Novi Orbis exhibent, maximèque *Diclipteræ flabelliflore* N. ab E. in Reliq. Hænk. ined. et *D. ocymoides* Juss.; harum namque capitula jam purè uniflora, in apice communis brevisque pedunculi capitulum commune flabelliforme, utrinque bractearum (alterâ majorum alterâ minorum) serie, quæ propriæ sunt capitulorum bracteæ, ad utrumque finem autem unâ majorique bracteâ communi tectum struunt.

Adnot. 2. *Justicia chinensis* tres saltem diversas species comprehendit, et inter eas forsan unam alieni omninò loci, ad quam verba "bracteis ovatis *obtusis*" spectant.

Hìc inserendum novum genus Brasilicum

AMPHISCOPIA *.

Calyx profundè quinquepartitus, æqualis (parvus). Corolla ringens, labio inferiore trifido. Stamina duo; antheræ bilocellatæ, muticæ, locellis in connectivi elongati finibus altero sursùm altero retrorsùm spectante. Stigma simplex. Capsula sessilis, ad medium usque asperma valvulis plano-contiguis, in superiori parte bilocularis et inferiùs tetrasperma. Semina compressa, retinaculis suffulta.—Inflorescentia: spicæ compositæ, terminales, secundæ, bracteatæ, ramulis secundifloris. Bracteæ florales latæ, basi pedicello brevissimo connatæ, opposita exigua. Bracteolæ parvæ.

Amphiscopia Beyrichii: in rupibus umbrosis sylvarum in *Serra d'Estrella,* Augusto mense, legit Beyrich.

Fruticulus 2—3-pedalis, basi repens, dein adscendens. Folia oblonga, utrinque acuminata, glabra, 5—6 poll. longa, 1—1½ p. lata, æqualia, petiolo longo. Spica terminalis, 1—4 poll. longa, e spiculis brevibus, inferioribus oppositis foliis parvis suffultis, reliquis alternatìm secundis, erectis. Rhaches tomentosæ. Bracteæ 3 lin. longæ, subrotundæ, retusæ, ciliatæ, herbaceo-membranaceæ, venoso-reticulatæ, coloratæ; bractea altera, non omninò opposita, exilissima subulata. Bracteolæ binæ. Calyx lineâ paullò longior, membranaceus. Corolla 4 lin. longa, purpurea, tubo pallidiore, labiis pulchrè venosis. Capsula vix 3-linearis, oblonga. Retinacula lata, truncata.

LI. PERISTROPHE †.

Justiciæ spp., Vahl, Roxb., Wall.

Calyx æqualis, quinquefidus vel quinquepartitus, in capitulo bracteato-bivalvi sessilis. Corolla resupinata, bilabiata, labiis planis superiore (post conversionem) tridentato, inferiore integro vel bidentato. Stamina duo. Antheræ angustæ, bilocellatæ, locellis obliquè altero pone alterum positis directione parallelâ, demùm contortis, muticis. Capsula bivalvis, bilocellata, basi elongata sterilis compressa commissurâ valvularum planâ, sursùm a latere dissepimentali compressa, loculis dispermis. Dissepimentum adnatum, persistens. Semina discoidea. Retinacula uncinata.—Inflorescentia: capitula florum, involucro bivalvi inclusa, in umbellas axillares et deniquè terminales, simplices vel compositas disponuntur; denique (in una specie) capitula in typum primitivum dichotomiæ cum intermedio flore soluta et quasi disjecta in paniculam trichotomam vel potiùs dichotomam cum solitariis floribus intermediis abeunt.—Caulis plerarumque sexangularis, ad nodos carnosus. Flores tubo longo instructi, purpurei.

A. *Flores capitati.*

a. Bracteæ involucrales calycibus multò latiores et longiores, foliis bracteisque ramificationum dissimiles.

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* Ab *αμφις in duas oppositas partes,* et *σκοπεω speculor, video,* ob divergentem locellorum antheræ situm.

† A *περι* et *στροφος, quod conversum est,* propter corollam torsione resupinatam. Terminatio arbitrariè facta.

1. *Peristrophe montana:* foliis oblongis utrinque attenuatis lineolatis cauleque glabris, umbellis axillaribus terminalibusque quinquefidis, capitulis tri-quinquefloris, involucri diphylli foliolis æqualibus ovato-ellipticis obtusis mucronulatis glabris.—*Justicia purpurea* Herb. Wight. n. 49.

β sylvestris: foliis oblongis (longissimè) acuminatis basi acutis, umbellis terminalibus singulis ternisve tri-quinquefidis, radiis trifidis, capitulis bi-trifloris, involucri diphylli foliolis æqualibus oblongis obtusis mucronulatis calyce multò longioribus.—*Justicia sylvestris* Herb. Madrasp. Wall. Cat. n. 2468 a, b, c. *Justicia rubra* Herb. Wight. Wall. Cat. n. 2468 b. *Justicia longiflora* Herb. Heyn. Wall. Cat. n. 2468 c. *Justicia Wynaadensis* Herb. Wight. Wall. Cat. n. 2486 c. sub *Justicia lineata*. *Ruellia? montana* Wall. Cat. n. 2391. *Barleria montana* et *Barleria dianthera* Herb. Madrasp. Wall. l. c.

Crescit (α et β) in umbrosis montium Courtallum, ubi legit cl. Wight. β et in Travancore (Herb. Madrasp.).

Species excellens. Caulis glaber, obiter 6-angularis. Folia cum petiolis 2-pollicaribus subciliatis 6—7 poll. longa, integerrima. In nodo incrassato compressoque post folium sequitur ramulus, idem pedunculus petiolo brevior, apice nodulosus diphyllus, e nodo oriundis pedunculis 5, quorum 2 sæpè nonnisi cicatrice indicantur; pedunculi iterùm divisi, vel uniflori. Bracteæ seu involucri foliola duo, 6—7 lin. longa, ovato-oblonga mucronulata, glabra, venoso-reticulata, æqualia; in β longiora, angustiora. Flores in capitulo omninò sessiles. Calyx brevis. Bracteolæ (propriæ) subulatæ. Corolla sesquipollicaris, in β 2-pollicaris, purpurea, tubo gracili hirsuto. Capsula clavata, pubescens, mucronata. Semina tuberculata. Retinacula subulata, longa.—Var. β, in nostro saltem specimine, planta est morbosa; folia non tam densè lineolata. Capsula 6 lin. longa fusca. Retinacula linearia, uncinata, obtusa.

2. *Peristrophe fragilis:* caule scabro, foliis oblongis apice longè attenuatis, umbellis axillaribus quinquefidis pedunculis ancipitibus, bracteis generalibus (s. involucri foliolis) subulatis, propriis æqualibus venosis calyce duplò longioribus.—Wall. Cat. n. 7184.

Lecta in Tavoy a Gomezio d. 22 Octobris a. 1827. V. exemplum incompl.

Caulis sexangularis, densè lineolatus. Folia mollia, tenera, 4—5 poll. longa, 1—1¼ p. lata, glabra, lineolata; petiolis ½-pollicaribus. Pedunculi s. ramuli axillares ½—1 poll. longi apice bifolii, foliis oblongis vel lanceolatis, quinquefidi—trifidi. Pedunculi proprii flabellati, 2—3—5-fidi, valdè compressi, ancipites, ad divisuras bracteolis parvis subulatis dentiformibus. Involucella bi-triflora, diphylla, ciliata. Flores subsessiles; unus vel alter rudimentarii. Bracteolæ e basi latiore subulatæ, calyce duplò breviores, ut calyx scaberrimæ. (Corolla perfecta deest.) Capsula glabra, supernè bilocellata, disperma, dissepimento adnato! Retinacula valida, uncinata. Semina cordato-orbiculata, plana, aspera, fusca.

Differt a *P. montana* involucris multò minoribus, ad summum 4½ lin. longis, nec coloratis.

3. *Peristrophe tinctoria:* foliis ovatis obtusis lineolatis subtùs cauleque pubescenti-scabris, umbellis axillaribus terminalibusque quinquefidis, radiis compositis decompositisque, involucri diphylli foliolis inæqualibus subcordato-ovatis acutiusculis pubescenti-ciliatis.—*Justicia tinctoria* Roxb. Fl. Ind. ed. Car. et Wall. I. p. 124. n. 13. Wall. Cat. n. 2465 a—e. *Justicia Roxburghiana* R. et Sch. S. V. Mant. I. p. 140. Willd. Sp. Pl. ed. 2. I. p. 415. *Justicia baphica* Spr. S. V. I. p. 85. n. 124. *Justicia involucrata* Roxb. Herb. Wall. Cat. n. 2465 a. *Folium tinctorium* Rumph. Herb. Amb. VI. p. 51. t. 22. f. 1?[*].

Ad Rungpur, d. 1 Mart. a. 1809, legit cl. Hamilton. Ad Taong Dong, d. 25 Nov. a. 1826, floribus nondum evolutis.—Vidi etiam exempl. H. b. Calc.

Proxima *Peristr. montanæ*, differt pube tomentosulâ incanâ, in foliis (quæ obtusa breviora et latiora) subtùs rigidula; inflorescentiâ magìs compositâ, in nostro exemplo terminali typo 5—7-fido, radiis alternis minoribus et minùs compositis; involucri foliolis inæqualibus ovatis basi sæpè subcordatis.—Bracteæ ramificationum inferiorum ellipticæ, tum spathulatæ, superiorum lanceolatæ, denique subulatæ. Bracteæ involucrales 9—7 lin. longæ, 4—5 ad basin latæ, purpurascentes, ex ovato subcordatæ. Capitula 3-(5-?)flora. Bracteolæ geminæ, carinatæ, subulatæ.—Siccata planta nigrescit cum purpuræ tinctura.

Adnot. 1. Descriptio *Justiciæ tinctoriæ* Roxb. obscurissima, vel post correctionem Fl. Ind. p. 473 adnexam. Magìs ideò herbaria et horti quàm verba auctoris consulenda erant.

Adnot. 2. In describenda *Justicia tinctoria* Roxburghium *Justiciam* suam *speciosam* commiscuisse haud improbabilè, cùm posteriorem hanc *Justiciæ tinctoriæ* titulo ex Horto bot. Calcuttensi nuperrimè sibi transmissam dederit Wallichius.

Adnot. 3. Quid *Hypoëstes involucrata* Spr. in R. et Sch. S. V. I. p. 141. et Spr. S. V. I. p. 88. n. 9, ad quam *Justiciam involucratam* Roxb., ex ipsius Roxburghii litteris cl. Sprengelius citat? Longè diversissiman esse plantam ab ea, de qua nobis sermo, docet descriptio. *Hypoëstem* esse dubium non relinquitur, ideò, ut dubiam saltem, ad *Hypoëstem Wallichii* citavimus.

b. Bracteæ involucrales calycibus longiores, neque multò latiores, bracteis ramificationum vel dissimiles illisque angustiores, vel consimiles et sub capitulis denique majores.

4. *Peristrophe speciosa:* fruticosa, foliis ovatis basi acutis suprà lineolatis cauleque obtusè hexagono glabris, pedunculis axillaribus trifidis trichotomisve, floribus umbellato-capitatis involucratis, bracteis exterioribus cuneiformi-linearibus obtusis, propriis lanceolatis acutis.—*Justicia speciosa* Roxb. Fl. Ind. ed. Car. et Wall. I. p. 123. R. et Sch. S. V. Mant. I. p. 139. Willd. Sp. Pl. ed. 2. I. p. 415. Syn. S. V. I. p. 85. Bot. Mag. t. 1722. Wall. Cat. n. 2464 a—e. *Justicia tinctoria* H. b. Calc.

Crescit in interioribus Bengaliæ tractibus, florensque tempore frigido summum est sylvarum hoc tempore decus. (Roxburgh.)

In Nepalia a. 1821 legit Wallichius. In Sillet F. D.

Frutex glaber, obtusè hexagonus, purpureus, nodosus. Rami florigeri oppositi, stricti, patuli, 6—8-pollicares, decrescentes, inferiores bis terve trifidi, summi plerique gemini, omnis autem ramificatio absolvitur denique capitulis vel binis lateralibus, vel uno alterius lateris, altero oppositorum evanescente, altero minori rami continuationem ad latus declinantem claudente. Capitulum singulum constat e binis ternisve capitulis subsessilibus in axilla bracteæ spathulatæ petiolatæ sitis. Bracteolæ ciliolatæ, 4 lin. longæ, lineari-lanceolatæ. Corolla pollicaris, purpurea. Capsula 8 lin. longa, pallida. *Dissepimentum adnatum, nunquam dehiscens.*

5. *Peristrophe acuminata:* foliis oblongo-lanceolatis longissimè acuminatis lineolis exasperatis ad nervos scabris, pedunculis axillaribus subgeminis umbellatis, floribus capitatis subternis, involucri diphylli foliolis lanceolatis acuminatis, calycibus scaberrimis.—*Justicia* . . . . Wall. Cat. n. 2425 b.

β. ramis florentibus brevioribus, bracteis capitulorum superiorum cum fructu auctis oblongo-lanceolatis duplò majoribus.—*Justicia acuminata* Wall. Cat. n. 2425 a.

Var. α in Tavoy d. 8 Sept. 1827, cum floribus, absque fructu, legit Guil. Gomez; var. β in montibus provinciæ Sillet F. D.

Caulis herbaceus, glaber, trichotomus. Folia 5 poll. longa, 1¾ (superiora 1) poll. lata; summa pendula. Pedunculi axillares gemini vel solitarii, folii longitudine, apice umbellati, 3—4-fidi. Bracteæ duæ subulatæ parvæ ad umbellulæ articulum. Flores in apice pedunculorum tres, quandoque plures, sessiles. Involucrum commune calycibus longius. Bracteæ duæ subulatæ, scaberrimæ, ad basin floris singuli, longitudine calycis. Corolla ¾ poll. longa, pubescens, tubo gracili incurvo. Capsula pubescens, mucronata. Retinacula valida.

6. *Peristrophe bicalyculata:* caule hexagono hirto, foliis ovatis acuminatis lineolatis glabris, pedunculis axillaribus bi-trifidis, ramis dichotomis, capitulis unifloris cum rudimento, involucro communi monophyllo lineari capitulo duplò longiore, proprio pentaphyllo basi subconnato, calyce parvo membranaceo.—*Justicia bicalyculata* Vahl Symb. II. p. 13. En. I. p. 113. Willd. Sp. Pl. ed. 2. I. p. 410. R.

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[*] An potiùs ad *Peristrophen montanam* referenda est hæc figura Rumphiana?

et Sch. S. V. I. p. 143. Mant. I. p. 130. Spr. S. V. I. p. 84. Willd. En. H. Ber. I. p. 24. Link En. I. p. 29. Roxb. Fl. Ind. ed. Car. et Wall. I. p. 127. Blume Bydr. p. 783. Wall. Cat. n. 2457 a—i. Wight Herb. propr. n. 53. *Justicia ligulata* Lam. Ill. Gen. t. 12. f. 2. Enc. Méth. I. p. 632. n. 37. Cavan. Ic. I. p. 52. t. 71. *Justicia malabarica* Ait. H. Kew. I. p. 27. *Dianthera bicalyculata* Retz. Act. Holm. a. 1775. p. 297. t. 9. Obs. Bot. I. p. 10. *Dianthera paniculata* Forsk. Descr. I. n. 9?

β depauperata: pedunculis axillaribus bi-trifloris.—*Justicia bicalyculata* Herb. Wight. Wall. Cat. n. 2457 d.

Planta inamœna, communis in ruderatis, ad margines viarum et sepes; floret tempore pluvio frigidoque (Roxb.).—Frequentissima in ruderatis (Wight.). In Patna, Pirgury (Hamilton. Wall. Cat. n. 2457 b.). In Ghazepur, a. 1820. Wall. Cat. n. 2457 c.—In Promæ montibus, ad Paghamew d. 22 Dec. a. 1826, et ad Segain d. 11 Nov. In H. b. Calc. Vidi etiam exempla Herb. Madr.—Var. β in Madras, Wight. Wall. l. c. In graminosis provinciæ Tjanjor Javæ. Blume. ⊙.

Quæ bracteæ "exteriores semipollicares oblongæ" dicuntur in Spec. Pl. l. c., has bracteas esse divisionum inflorescentiæ intelligas. Capituli involucrum commune ex uno folio constat, 5 lin. longo, lineari, erecto; foliola 4—5 involucri proprii, duplò breviora, lineari-lanceolata, aristato-acuminata, membranaceo-marginata, binos flores produnt, quorum alter abortu ferè evanescit. Calyx hoc involucro brevior, albido-membranaceus. Corolla 5 lin. longa, angusta, rosea, pubescens.

7. *Peristrophe Lanceolaria:* foliis oblongo-lanceolatis utrinque acuminatis lineolatis scabriusculis, paniculâ terminali trichotomâ viscido-hirtâ, floribus capitato-ternis, involucri foliolis ternis lanceolatis acuminatis viscido-hirtis.—*Justicia Lanceolaria* Roxb. Fl. Ind. ed. Car. et Wall. I. p. 122. R. et Sch. S. V. Mant. I. p. 139. Willd. Sp. Pl. ed. 2. I. p. 415. n. 142. Spr. S. V. I. p. 85. n. 122. Wall. Cat. n. 2463 a, b.

Crescit in montibus provinciæ Sillet ubi pridem, denuòque a. 1829 legit Guil. Gomez.—V. exempl. imperfectum, fructu carens.

Caulis lignosus, obsoletè tetragonus, griseus, scaber. Folia 3—4 poll. longa, 1½ p. lata, integerrima. Bracteæ divisionum duæ oppositæ, lineares. Flores ramulos coronantes 2—3, subsessiles. Bractea sub singulo flore una, et binæ ad pedicelli exigui basin, 6—8 lin. longæ, lineari-lanceolatæ, hirtæ, rigidæ, calyce longiores. Corolla 1—1½-pollicaris, torsione tubi resupinata, pubescens, rosea, fauce subventricosa. Capsula ½-pollicaris, glanduloso-exasperata.

B. *Flores dichotomo-paniculati.*

8. *Peristrophe pubigera:* fruticosa, pubescens, foliis rhombeo-oblongis repandis, paniculis axillaribus oppositis terminalique dichotomis, bracteis parvis subulatis, corollæ labio superiore fornicato.—*Justicia pubigera* Wall. Cat. n. 2490.

In Bhuddrinath, Kamroop. Wallich l. c.

Rami pedales, subteretes, 6-striati, pubescenti-hirtuli. Folia 5 poll. longa, 2 p. lata, petiolo ¾ pollicis. Pedunculi axillares oppositi in paniculam terminalem adscendentes, æquales, 2-pollicares circiter, bis terve dichotomo-cymosi. Bracteæ primariæ e foliis sensìm decrescentibus, summis vix ½-pollicaribus, petiolatis enatæ; ramorum omnium divisionum minimæ, subulatæ, pubescentes. Pedicelli vix 1 lin., calyces 3 ferè lineas longi, pubescentes, subviscidi. Corolla circiter pollicaris atropurpurea. Capsula ¾ poll. longa, pubescens. Retinacula obtusa, suprà excavata.

Adnot. Hac in specie inflorescentia capitellata generis penitùs in dichotomiam dissolvitur.

LII. HYPOESTES *R. Br.*

Justiciæ spp., Linn., Willd., et al.

Calyx quinquefidus vel quinquepartitus, æqualis, (in capitulo subunifloro involucro tetraphyllo ad basin discreto, vel basin versus monophyllo seu coalito inclusus). Corolla bilabiata, labio inferiore profundè trifido. Stamina duo. Antheræ unilocellatæ, ante evolutionem cohærentes; locellus in connectivo angusto lateralis. Stigma bifidum. Capsula ab inferiore parte compressa, valvularum commissurâ plano-contiguâ, asperma; apicem versus bilocularis tetrasperma. Dissepimentum adnatum, completum. Semina retinaculis suffulta, ovato-subrotunda, biconvexo-compressa, tuberculata. Retinacula subulata.—Inflorescentia: capitula, abortu plerumque merè uniflora vel rudimentis accedentibus subuniflora; involucro tetraphyllo cruciato basi indurescente et vel ad originem diviso, vel foliolis connatis gamosepalo quadrifido inclusa, in umbellulas simplices vel ramo centrali composito, flabellares disposita.

Adnot. Inflorescentia est DICLIPTERÆ, ad minorem numerum partium capitulorum eamque ob causam magìs regularem et constantem redacta. Involucri foliola duo exteriora, eaque majora et inter se sæpè inæqualia, bracteæ steriles sunt; duo interiora, distantiâ ¼ cum præcedentibus posita, basi rhacheos communis brevi callo inserta, rudimentum sæpè gerunt flosculi; ubi bracteæ basi concrescunt obscurior evadit partium nexus atque origo; in vertice rhacheos aliquantum sublato flos medius pedicello brevissimo insertus bracteolarum bases saltem formâ lineæ transversalis prominulæ, involucri majoris foliolis oppositæ, ostendit. Si flosculus unus vel alter medio flori ad latus positus interiit, locus ejus bracteolis duabus angustis membranaceis, laciniis calycis similibus, indicatur.

1. *Hypoëstes Wallichii:* foliis ovatis repando-crenatis suprà strigoso-hirtis, thyrsis (umbellis) axillaribus geminis terminalibusque mediis in medio proliferis, foliis floralibus ovatis obtusis, involucri tetraphylli discreti uniflori foliolis exterioribus cuneiformibus obtusis unifloris.—? *Justicia chinensis* Wall. Cat. n. 2466 e. *Hypoëstes involucrata* Spr. in R. et Sch. S. V. I. p. 141. Spr. S. V. I. p. 88. n. 9. Willd. Sp. Pl. ed. 2. I. p. 439.

In Napalia a. 1820 legit Wallichius. Et, cl. Sprengelio teste, circa Calcuttam.

Caulis herbaceus, 1½-pedalis, 2-pedalis et altior, obtusè sexangularis, ramosus, diffusus, procumbens, adscendens, ramis oppositis longis. Folia opposita inæqualia, superiora caulis atque ramorum cum petiolo pollicari 3½—4 poll. longa, 1—1¼ p. lata; ramulorum florentium a pollicaribus in ½-poll. decrescentia, altero sæpè duplò minore. Inflorescentiæ typus capitula sunt 3—5-flora axillaria, gemina in ramulis microphyllis 1—2-pollicaribus plerumque geminatìm basi conjunctis. Involucri foliola 2 exteriora majora, 5 et 4 lin. longa, pubescentia, ciliolata; interiora 3½ l. longa, lanceolata, acuta, membranaceo-chartacea, ciliata. Bracteolæ, si adsunt a latere floris medii oppositæ, subulatæ, membranaceæ, lineâ paulò longiores. Calyx albus, membranaceus, pubescens et ciliatus. Corolla 5 lin. longa, angusta, pubescens, tenera, alba. Capsula 3½ lin. longa, pallida, acuminata, pubescens. Retinacula uncinata, obtusiuscula.—Partes inflorescentiæ centrales priùs florent, sed rami inferiorum internodiorum præcedunt superiores.

Adnot. Ab *Hypoëste Forskolei* Blume (nescio an Arabica illa,) differt involucro, (exteriore saltem ejus folio,) cuneiformi obtusoque, nec subulato, cauleque herbaceo. *Hypoëstes verticillaris* et *H. triflora* distinguuntur foliis integerrimis, tum illa inflorescentiâ, hæc foliis floralibus involucroque angustioribus.

2. *Hypoëstes purpurea* R. Br.: foliis ovalibus utrinque acuminatis integerrimis subtùs ramisque pubescenti-scabris, thyrsis axillaribus terminalique spiciformibus, foliis floralibus ovatis laciniisque involucri tubulosi mucronatis.—*Hypoëstes purpurea* R. Br. Prodr. Fl. N. Holl. I. p. 474. ed. N. ab E. p. 330. R. et Sch. S. Veg. I. p. 140. Willd. Sp. Pl. ed. 2. I. p. 437. Spr. S. V. I. p. 87. n. 3. *Justicia purpurea* Vahl Symb. II. p. 13. (nec Linn.) Willd. Sp. Pl. I. p. 80. (quod ad definitionem).—Wall. Cat. n. 2473.

Colitur in Horto bot. Calcuttensi, introducta e China a Dom. Reeves.

Descriptio Vahliana bona. Caulis pubescenti-scaber, canescens. Folia subtiliter lineolata. Ramuli axillares foliis plerique breviores a medio ferè involucra ferunt axillaria foliorum floralium, solitaria, alternatìm subsecunda approximata, et spicam brevem referunt, foliis floralibus ovatis petiolatis mucronatis a ¾ ad ¼ pollicis decrescentibus interstinctam. Involucra 3 lin. longa. Calyx membranaceus, pubescens. Corolla semipollicaris et paullò longior, angusta, pubescens, purpurea. Capsula involucro paullò longior, oblonga, acuta. Semina tuberculato-aspera.

Advers. Quisquis descriptionem *Linneanam Justiciæ purpureæ* benè comparaverit, videbit, longè aliam eum ante oculos habuisse plantam; quid enim, quæso, sibi vellent bracteæ *angustæ* lanceolatæ longitudine capsularum, quid labium alterum (superius certò) *angustissimum*, alterum *latum trilobum*, si hanc *Hypoëstem* scriptor pingere voluisset?—*Beloperonen* potiùs *Amherstiæ*, quam diximus, intellexisse illum puto, quam *Hypoëstem* nostram *purpuream*.

LIII. RHAPHIDOSPORA*.

Justiciæ sp., Kön.

Calyx parvus, quinquefidus. Corolla resupinata tubo recurvo, labio superiore (jam infero) concavo, superiore latiore trifido. Stamina duo, exserta; antherarum locelli alter supra alterum positi superior brevior, inferior basi calcaratus. Capsula basi compressa asperma angustior, apice tetrasperma; dissepimentum completum. Semina retinaculis uncinatis sustensa, discoidea, echinato-hispida.—Inflorescentia: paniculæ axillares trichotomæ. Flores capitato-terni, ob abortientes flores laterales plerumque solitarii, ad speciem octo vel novem bracteis cincti, nempè duabus tribusve bracteis paullò majoribus et geminis bracteolis floris singuli, quarum nonnullæ sæpè obliterantur; bracteæ et bracteolæ exiguæ, setaceæ. Corolla parva.

Observ. Contractione ejusmodi paniculæ, vel racemi, vel spicæ compositæ, omninò spicarum forma, qualis est in *Gendarussa vulgari*, oritur. Resupinatio florum ab evolutione ramificationis pendere videtur.

Rhaphidospora glabra.—Duæ sunt plantæ hujus formæ:

α. paniculis glabriusculis.—*Justicia glabra* König. Roxb. Fl. Ind. ed. Car. et Wall. I. p. 132. R. et Sch. Mant. I. p. 144. Willd. Sp. Pl. ed. 2. I. p. 411. Spr. S. V. I. p. 84. Wall. Cat. n. 2455 a—d. *Justicia cymosa*, *J. umbellata* et *J. dichotoma* Herb. Madr. Wall. Cat. n. 2455 b. *Justicia glabrata* Herb. Röttler. Wall. Cat. n. 2455 c.

β. paniculis densè glandulosis, paullò rigidioribus.—*Justiciæ glabræ var.* Wight Herb. propr. n. 52. Wall. Cat. n. 2455 e.—*Justicia glabrata* N. ab E. Herb. ad exempl. Heyneanum. *Justicia Careyana* H. b. Calc. Wall. Cat. n. 2456 b, c. et H. b. Calc. et *J. Careyana* Herb. Hamilt. et H. b. Calc. (Wall. l. c. n. 2456 c.)

Crescit inter frutices, solo sicco et sterili oræ Coromandelianæ, floret tempore pluvio frigido. (Roxb.) In Chellunbrun. (Wight.) Etiam in Horto botanico Calcuttensi. ⊙.

Est herbacea, glabra, laxa, foliis ovatis acumine longo obtuso, petiolatis, minutìm lineolatis, quandoque ovato-subrotundis. Paniculæ laterales di-trichotomæ, glabriusculæ vel glanduloso-scabræ, inferiores folio suo breviores, superiores folium æquantes; bracteola exigua setacea patula sub quovis ramulo, binæ sub calycibus (parvis); pedicelli vix lineares. Corolla 3 lin. longa, roseo, luteo viridique (Roxb.) varia; labio superiore concavo; calcare locelli antheræ inferioris bidentato.—Var. β præter glandulas paniculæ crebriores minimè differt ab α.

Adnot. *Justicia retorta* Vahl. eadem planta esse videtur, ad exemplum minùs completum exposita.

Generis incerti, an novi?, DICLIPTEREARUM quidem subtribus, est (*Justicia*) *aristata* Wall. (Wall. Cat. n. 2481), spicis axillaribus bifidis secundis, bracteis bracteolis calycibusque setaceo-acuminatis, capsulâ basi compressâ, apice tetraspermâ.

Est ex Herbario Heyneano, loco natali non notato.

Planta singularis (sed propter florem deficientem non ritè collocanda). Ramuli graciles, dichotomi, teretiusculi, ad genicula infracti et subincrassati, lignosi, densè pubescenti-scabri. Folia opposita, cum petiolo longo (pollicari) tenui pubescente 2—$3\frac{1}{4}$ poll. longa, $\frac{1}{2}$—$\frac{3}{4}$ p. lata, oblonga, acuta utrinque, patentissima vel pendula, suprà lineolata, utrinque ad costas pubescenti-strigulosa. Spicæ cum pedunculo æquè longo pollicares, terminales adveniente innovatione caulem continuante, hinc deinde laterales, vel terminales geminæ, bifidæ, ramo altero breviore. Rhachis pubescenti-scabra, inspersis glandulis. Pedunculus in medio bracteolis 2 setaceis. Spicæ secundæ, basi compositæ densæ, ob bracteas calycesque setaceo-aristatos Graminis magìs quàm Acanthaceæ speciem exhibentes. Bracteæ et bracteolæ æquales, e basi latiore setaceo-attenuatæ, tenuissimæ, scabræ, 3 lin. longæ, strictæ; bracteæ superiores steriles. Ex axilla bracteolæ alterius plerumque rudimentum nascitur alterius flosculi angustum, bi-trisetum. Calyx 3-linearis, ad $\frac{4}{5}$ quinquepartitus, scaber, laciniis setaceis bracteolis simillimis uninervibus basi trinervibus. Capsula calyce brevior, $2\frac{1}{2}$ l. longa, lanceolata, acutiuscula, pallida, sparsìm puberula, a basi ad $\frac{1}{4}$ vel $\frac{1}{3}$ compressa, commissurâ planâ, asperma; abhinc tumidula, parùm depressa, subsex-sulcata, bilocularis, dissepimento completo adnatoque, tetrasperma. Retinacula obtusa. Semina orbiculata, plano-convexa, scrobiculata, pallida.

Adnot. Capsula est Gendarussæ ejusque similium; sed habitus plantæ alienus diversum genus indicat, fortassè Lepidagathidibus propius consociandum.

Subtribus VII. ANDROGRAPHIDEÆ.

LIV. ERIANTHERA*.

Justiciæ et *Andrographidis* spp., Röttl., Wall.

Calyx quinquepartitus, laciniis æqualibus. Corolla bilabiata, labio superiore latiore integro, inferiore bifido. Stamina duo, exserta. Antheræ abortu unilocellatæ, locello supero pollinifero, infero in barbam lanatam soluto. Stigma parvum capitatum. Capsula oblonga, depressa, bilocularis, a basi ad medium hexa-pleiosperma. Dissepimentum adnatum, breve. Semina retinaculis brevibus pedicellata.—Inflorescentia: flores axillares ebracteolati; pedunculis uni-bifloris.—Suffrutices humiles.

1. *Erianthera serpyllifolia*: caule procumbente, foliis suborbiculatis subsessilibus, floribus axillaribus, pedicellis uni-bifloris.—*Justicia serpyllifolia* Röttl. Vahl En. I. p. 169. R. et Sch. S. V. I. p. 165. Willd. Sp. Pl. ed. 2. I. p. 414. Spr. S. V. I. p. 85. n. 120. *Justicia nummularifolia* Wall. Cat. n. 2461 a, b, c.—*Andrographis humifusa, an orbiculata* Wall. Wight Herb. propr. n. 55.

β. ramis caulisque apice attenuatis microphyllis multifloris racemos secundos fingentibus.—Wall. l. c. b. ex Herb. Heyn.

Crescit in umbrosis provinciæ Mysore (Wight). In Palamcotta (Herb. Roxburgh.).

Radix (rhizoma) pro magnitudine plantæ crassa. Caulis digitalis et palmaris, prostratus, villosus. Folia 4—6—7 lin. longa et lata, punctulato-scabriuscula, rariùs hirsutula, ciliata. Pedunculi e plurimis axillis, glanduloso-pilosuli, lineares. Calyx $3\frac{1}{2}$ lin. longus, glanduloso-pubescens. Corolla 4 lin. longa, infundibuliformis, pubescens, præter lineas purpureas alba. Capsula 5 lin. longa, acuta, chartacea, apicem versus hirsuta.

2. *Erianthera lobelioides*: caule suffruticoso diffuso, foliis orbiculatis petiolatis, floribus terminalibus racemosis.—*Justicia lobelioides* Wall. Cat. n. 2484 (ex Herb. Heyn.).—*Andrographis?* Wight Herb. propr. n. 54.

In pascuis jugi Nilgherry dicti. Wight.

Fruticulus præcedentis formâ, sed abundè distinctus. Truncus crassus a basi ramosus diffusus, pollicaris—semipedalis. Folia cum petiolo 2-lineari 7 lin. longa et lata, mucronulata, punctulato-aspérula. Rami terminantur racemo florum 1—2—3-pollicari, glanduloso-pubescente, floribus plerumque distantibus. Bracteæ communes oppositæ, subulatæ, 1 lin. longæ; propriæ vix ullæ. Pedicelli 1—5-lineares, erecti. Calyx, corolla et stamina ut in præcedente, sed calyx ratione corollæ minor et corolla major, hæc tota purpurea, et labium superius ferè orbiculatum. Fructus . . . .

LV. HAPLANTHUS†.

Justiciæ sp., Wall.

Calyx quinquepartitus, æqualis. Corolla subinfundibuliformis; tubo incurvo, limbo quinquefido subbilabiato. Stamina duo, inclusa; antheræ unilocellatæ, connectivo loculoque altero abortivo tomentosis; filamenta basi introrsùm dilatata. Capsula linearis, depressa, a basi poly-(16-)sperma, seminibus parvis angulatis.—Inflorescentia: racemulus subspicatus terminalis partitus, bracteis partialibus propriisque parvis subulatis.

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* Etym. ῥαφις *acus*, et σπερμα, ob semina aciculato-hispida.

* Etym. ab εριον *lana*, et ανθερα, ob antheras lanatas.

† Nomen ab ἁπλοος *simplex*, et ανθος, propter antheras unilocellatas et omnis inflorescentiæ simplicitatem.

Haplanthus tener.—Variat

α humilis: racemo terminali trifido.—Wall. Cat. 7185 a.

β elongatus: racemis axillaribus terminalibusque quaternis.—*Justicia tenuiflora* Wall. MSS. Ejusd. Cat. 7185 b, c.

Crescit var. *α* in Tavoy, lecta d. 2 Octobris a. 1827 a Guil. Gomez, cum floribus, absque fructu. V. exempla duo.—Var. *β* iisdem in terris d. 16 Sept. 1827, et in Taong Dong d. 24 Nov. 1826.

Herba facie *Rhaphidosporæ glabræ*, caule (in *α*) spithamæo, gracili, erecto vel basi procumbente et ad genicula repente, quadrangulari subhirsuto ramoso vel simplice. Folia primordialia subrotundo-spathulata, parva; reliqua, circ. 4 parium, 2—2½ poll. longa, ovata utrinque acuta vel angustata, penninervia, suprà pilosa. Racemus terminalis triplex, pauciflorus, ramis glabris. Flores circa apices 3—6, alterni subsecundi, pedicellis 1—1½ lin. longis glanduloso-puberulis, bracteis binis subulatis pedicello brevioribus ad hujus originem, binæ minores in ipso ad basin. Corolla 4-linearis, pubescens, purpurea.—Var. *β* differt caule pedali et altiore, ramoso dichotomo; foliis ferè glabris; superioribus (ovato-)lanceolatis subsessilibus.—Capsula 5 lin. longa, tenuis, acuta, compressa, glanduloso-pubescens. Semina in singulo loculo octo, rufa, rugulosa; retinacula stipitata, lanceolata.

LVI. ANDROGRAPHIS* *Wall.*

Justiciæ spp., Linn., Auctt.

Calyx profundè quinquepartitus, æqualis, laciniis angustis. Corolla bilabiata, labio superiore integro vel bifido; ubi resupinata, ad speciem sensu contrario divisa. Stamina duo; antheræ bilocellatæ, locellis parallelis basi barbatis. Capsula ovalis vel lanceolata, depressa, ad basin usque bilocularis tetra-polysperma. Dissepimentum adnatum. Semina ovalia, obtusa, teretiuscula, basi obliquè truncata, alveolato-scrobiculata, hilo profundo. Retinacula pedicellata, dilatato-squamiformia, decidua.—Inflorescentia: racemi axillares, graciles, simplices vel dichotomi trichotomive, secundi. Bracteæ duæ oppositæ, calyce breviores; bracteolæ nullæ. Calycis laciniæ filiformes.—Plantæ pleræque annuæ, rariùs suffruticosæ.

1. *Andrographis paniculata* Wall.: herbacea, caule foliisque lanceolatis in petiolum attenuatis glabris, racemis axillaribus bifidis dichotomisve, capsulis polyspermis.—*Andrographis* (*paniculata*) Wall. Cat. n. 2454. *Justicia paniculata* Burm. Fl. Ind. p. 9. Vahl Symb. II. p. 5. Enum. I. p. 130. Willd. En. H. Ber. I. p. 26. Sp. Pl. ed. 2. I. p. 383. R. et Sch. S. V. I. p. 150. Mant. I. p. 134. Spr. S. V. I. p. 80. n. 38. Poir. Enc. Méth. Suppl. II. p. 106. n. 83. Blume Bydr. p. 788. Rob. Br. Prodr. Fl. N. Holl. ed. N. ab E. I. p. 331. Wall. Cat. n. 2454 a—g. Wight Herb. propr. n. 68.—Roxb. Fl. Ind. ed. Car. et Wall. I. p. 119. n. 6?—*Justicia latebrosa* Herbb. Russell., Hamilt., et Wight. Wall. Cat. l. c. d, e, f.—*Cara Caniram* Rheed. H. Mal. IX. p. 109. t. 56. *Adhatodæ similis planta* Herb. Garcin. ap. Burm.

Crescit in Indiæ orientalis locis siccis sub umbra arborum et fruticum; floret maturatque fructum tempore pluvio et frigido. Roxb. —In provincia *Circars* dicta, in Courtallum etc. locis nemorosis. Wight. In Travancore (Herb. Madr., Wall. Cat. n. 2454 c.); in Sibgunj et Habora (Hamilt., Wall. Cat. n. 2454 e). In H. b. Calc. —In Malabaria et Zeylona (Burmannus). Circa Bataviam, locis siccis (Blume).—Vidi exempla culta plura.—Nomen Bengalense *Kalà-megh*, *Kalùp-nath*, vel *Mùha-tìta*, quod posterius Regem amaritudinis seu amarorum significat. In lingua Telingana *Nella-vemoso.*

Pedicelli 1½—3-lineares, pubescentes; calyces 1½—2 lin. longi, pubescentes immixtis glandulis pedicellatis. Corolla rosea (?). Capsula lanceolata, a basi compressa, seminibus 12—16. Antherarum locelli omninò ut in sequente, quæ fortassè hujus varietas.

Adnot. Roxburghii planta dubia, ob verba: "*Bractes, a large exterior opposite pair*"; in nostra enim bracteæ exteriores s. communes vix lineam longæ, lanceolato-subulatæ, interioribus setaceis parùm longiores et duplò ad summum latiores.

2. *Andrographis lineata:* herbacea, caule foliisque ovato-oblongis sessilibus glabris, racemis di-trichotomis axillaribus glanduloso-pubescentibus, laciniis calycis subulatis, capsulâ polyspermâ.—*Justicia lineata* Wall. Cat. n. 2486 a ex parte.—*Justicia*, species nova, *J. glandulosæ* proxima; caule quadrangulari; foliis oblongis subtùs venoso-lineatis nudis; racemis terminalibus oppositis secundis piloso-glandulosis; floribus subsessilibus bracteatis. Wight Herb. in schedis.—*Justiciæ* spec. Wight Herb. propr. n. 67.

Patria non indicata. Vidi exempla Herbb. Wightiani et Heyneani.

Rami lignosi quadriquetri; folia penninervia. Racemi ex axillis superioribus trichotomi, dichotomive, 2-pollicares, patuli, in inflorescentiam terminalem abeuntes. Bracteæ parvæ lineari-subulatæ; ad basin florum oppositæ vix ½-lineares. Calyx ferè 2 lin. longus. Corolla, pedicelli torsione resupinata, 5-linearis, pubescens, alba, labio inferiore (sursùm verso) trifido purpureo-punctato.

3. *Andrographis affinis:* herbacea, caule glabro, foliis ovali-oblongis petiolatis suprà strigosis subtùs pubescentibus, racemis axillaribus dimidiato-cymosis glanduloso-pubescentibus, laciniis calycis lanceolatis, capsulâ polyspermâ (?).—*Justicia lineata* Herb. Wight. Wall. Cat. n. 2486 a ex parte.

Vidi in Herb. Wightiano.

Præcedenti similis, differt foliis (2 poll. longis, ¾ poll. latis,) in medio nec versus basin latioribus, nec glabris, petiolo 3-lineari canaliculato; racemulis, ob pedicellorum brevitatem ferè spicis dicendis, ex superioribus axillis brevioribus, ¾—½ pollicis, (hinc caulis apice angustiore,) summis nudis, omnibus reverà bifidis cum flore intermedio, sed propter ramum internum plerumque abortivum et florem medium longiùs pedunculatum dimidiato-cymulosis; calycis laciniis brevioribus et latioribus; bracteis bracteolisque paullò latioribus.—Congruunt verò caulis figura quadriquetra, pubes inflorescentiæ glandulosa, atque corollæ (5 lin. longæ pubescentis pallidæ purpurâ lineatæ) figura et proportio.

4. *Andrographis viscosula:* fruticosa, caule foliisque oblongo-lanceolatis in petiolum attenuatis glabris, racemo terminali trifido glanduloso-pubescente, floribus secundis, capsulâ ovali octospermâ.—*Justicia lineata* Wall. Cat. n. 2486 b.

Ex Herbario Heyneano.

Fruticulus facie Myrtilli. Rami lignosi, ramosi, dichotomi, trichotomi, coarctati, projecturis tetragoni, articulis nodosis. Folia approximata, 1—1½ poll. longa, 5 lin. lata, integerrima, suprà minutè punctulata, rigidula. Inflorescentia terminalis, 2—4-pollicaris, subcorymbosa, pube rigidâ capitatâ omnium partium vestita, composita e racemulis partialibus oppositis, foliorum supremorum valdè decrescentium axillaribus, 2—3 parium, 2—1 pollicem longis. Bracteæ bracteolæque oppositæ, subulatæ, pedicello 1½-lineari breviores. Calyx 2—2½ lin. longus. Corolla 5 lin. longa, subcylindrica, albida, nervis 4 principalibus purpureis lineata præterque eos singulo nervulo utrinque in latere laciniarum labii inferioris et superioris picta. Capsula ½ pollice longior, glanduloso-hirta. Retinacula stipitata, lamellâ ovatâ obtusâ semen fulcientia.

5. *Andrographis glandulosa:* fruticosa, caule, foliis ovalibus petiolatis racemisque axillaribus bifidis subcymosis glanduloso-villosis, capsulis tetra-(octo-?)spermis.—*Justicia glandulosa* Roth N. Pl. Sp. p. 13. R. et Sch. S. V. I. p. 167. Mant. I. p. 146. Willd. Sp. Pl. ed. 2. p. 385. Spr. S. V. I. p. 80. n. 42.—"*Justicia glandulosa* nobis: calyx simplex, corolla bilabiata labiis divisis, monanthera. Caule quadrangulari; foliis breviter petiolatis oppositis ovatis obtusis integerrimis pilosis; floribus paniculatis axillaribus; calycibus pilosis. Pili omnes glanduliferi.—Ab Heynio." Schedæ manu (non Wightii) scripta Herbarii Wightiani.—Wall. Cat. n. 2485.

In Mysore, d. 25 Apr. a. 1801, legit b. Heynius.

Exempla Herbarii Wightiani, in Herb. Ind. or. generali, non bonæ sunt notæ, sed apprimè congruunt descriptioni Rothianæ; unum si excipias, in quo, cum ipsissima Heyneana viderim exempla et reliqua omnia correcta invenerim, erravisse cl. Rothium mihi persuadeo, scil. capsulam cum "linearem, angulosam" verbis adumbraret, quæ in nostra simillima *Andrographidis echioidis* capsulæ, ovalis, depressa, tetrasperma.

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* Ab ανηρ et γραφις, propter antheras penicellatas.—N. W.

Ceterum caule lignoso, pube molli longâ apice capitatâ patente, immixtâ breviore, foliis minoribus, 1—1½-pollicaribus, obtusis longiusculè petiolatis, paniculis seu racemulis paucifloris laxis, calyce ratione corollæ amplo et latiusculo, hoc in genere satìs distincta species.

6. *Andrographis echioides:* herbacea, hirsuta, foliis oblongis subsessilibus subcrenatis, racemis reflexis, capsulis tetraspermis.—Genus probabiliter novum. Rob. Brown, Prodr. Fl. Nov. Holl. ed. N. ab E. I. p. 331.

α. racemis subsimplicibus.—*Justicia ciliaris* Lam. Enc. Méth. I. p. 630. n. 26. (excl. syn. Linn.)

β. racemis dichotomo-paniculatis.—*Justicia echioides* Linn. Fl. Zeyl. p. 21. Vahl Symb. II. p. 14. En. I. p. 123. Lam. Enc. Méth. I. p. 630. n. 25. Willd. Sp. Pl. ed. 2. I. p. 379. R. et Sch. S. V. I. p. 119. Mant. I. p. 182. Spr. S. V. I. p. 79. Roxb. Fl. Ind. ed. Car. et Wal?. I. p. 119. Burm. Fl. Ind. p. 9. Wall. Cat. n. 2439 a—h. Wight Herb. propr.—*Digitali similis planta, bicapsularis, flore tubuloso, galeâ trifidâ et labio integro obtuso constante,* Burm. Thes. Zeyl. p. 88.—*Euphrasiæ affinis indica echioides,* Herm. H. Lugdb. p. 668, ic. in 669. Commel. Fl. Mal. p. 28.—*Gratiolæ affinis echioides Zeylanica major* Breyn. Prodr. II. p. 54. Petiv. Act. Lond. n. 244. t. 36. —*Buglossum echioides Zeylanicum, foliis Convolvuli indici minoris cœrulei,* Breyn. Eph. Ac. Nat. Cur. Ann. IV. et V. Obs. 159. Ray. Hist. I. p. 498.—*Asperifolia indica, foliis ex adverso binis,* Ray. Hist. III. p. 660?—*Pee Tumba* Rheed. H. Mal. IX. p. 87. t. 46. *Kawatuwa* et *Kawatumba* Mus. Zeyl. p. 13.

Habitat in Coromandeliæ ruderatis frequens; floret per totum annum. Roxb. Wight.—In Malabariæ et Zeylaniæ locis incultis, humidis et sordidis. Burm. Zeyl.—Ad Segaen, et Melloon in ripa Irawaddi fluminis, d. 20 Sept. a. 1826;—in Amati, Hamilt.—Vidi exempla Herbb. Madrasp., Hamilt., Wight., Zeylanica Herb. Burm. etc.

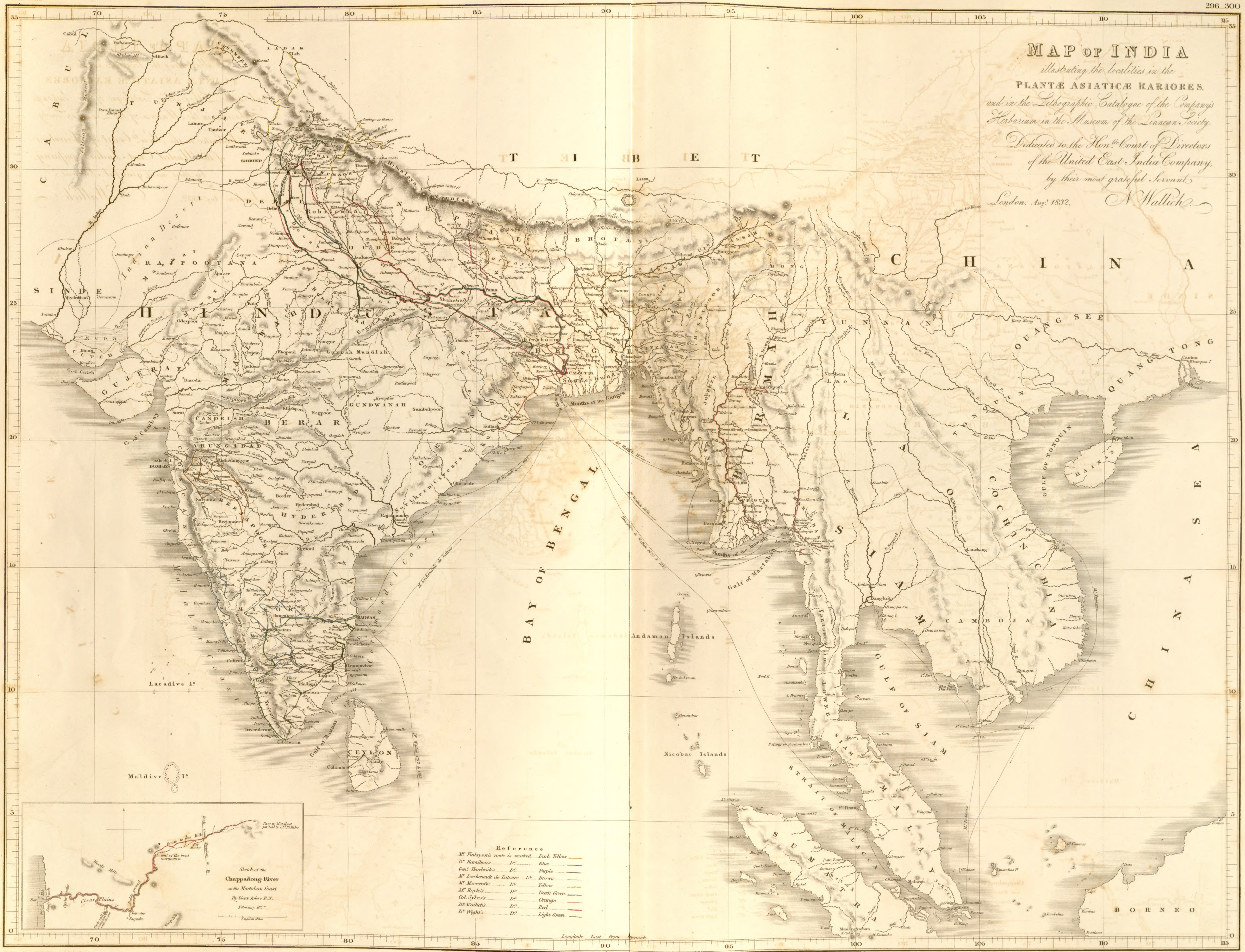
Annua. Caulis erectus, strictus. Racemi spiciformes floribus dissitis, folio in var. *α* breviores, deflexi; in *β* sæpè longiores, dichotomi, patuli. Bracteæ parvæ, altera opposita vacua patula, altera calyci appressa eoque multò brevior. Calycis laciniæ filiformes, pubescentes, hirtæ. Corollæ labium superius ovatum, integrum, album; inferius trifidum, apice purpureum striatum, laciniis ovatis obtusis, lateralibus angustioribus. Antherarum locellus inferior præsertìm longè densèque barbatus.

THE END.

RICHARD TAYLOR,
PRINTER TO THE UNIVERSITY OF LONDON,
RED LION COURT, FLEET STREET.

M DCCC XXXII.

ALERE FLAMMAM.



MAP OF INDIA

illustrating the localities in the

PLANTÆ ASIATICÆ RARIORES,

and in the Lithographic Catalogue of the Company's
Herbarium in the Museum of the Linnean Society.

Dedicated to the Honᵇˡᵉ Court of Directors
of the United East India Company,
by their most grateful Servant.

London, Augᵗ 1832. *N. Wallich.*

Reference

Mʳ Finlayson's route is marked		Dark Yellow	🟨
Dʳ Hamilton's	Dº	Blue	🟦
Genˡ Hardwick's	Dº	Purple	🟪
Mʳ Leschenault de Latour's	Dº	Brown	🟫
Mʳ Moorcroft's	Dº	Yellow	🟨
Mʳ Royle's	Dº	Dark Green	🟩
Col. Sykes's	Dº	Orange	🟧
Dʳ Wallich's	Dº	Red	🟥
Dʳ Wight's	Dº	Light Green	🟩

Sketch of the
Chappadong River
on the Martaban Coast
By Lieut. Spiers R.N.
February 1827

English Miles
Pass to Metakeet probably abᵗ 18 Miles
Route to the Hills
Extent of the boat navigation
Track from Martaban to Ye
Riv Rocky
Woody Hills
Clear Plains
Paddy ground
Oyster rocks
Sandy beach
Bar
Lamam
Pagoda
Creek said to communicate with the sea
CABUL
PUNJAB
SINDE
HINDUSTAN
RAJPOOTANA
GUJERAT
CANDEISH
BERAR
GUNDWANAH
ARUNGABAD
HYDERABAD
BEEJAPOOR
DELHI
OUDE
BAHAR
BENGAL
NEPAL
BHOTAN
ASSAM
TIBET
CHINA
YUNNAN
QUANG SEE
QUANG TONG
TONQUIN
COCHIN CHINA
CAMBOJA
SIAM
LAOS
BURMAH
PEGUE
SUMATRA
MALAYA
BORNEO
CEYLON
Himalaya Mountains
Indian Desert
Malabar Coast
Coromandel Coast
Northern Circars
BAY OF BENGAL
Mouths of the Ganges
Mouths of the Irawady
Gulf of Martaban
Andaman Islands
Nicobar Islands
GULF OF SIAM
GULF OF TONQUIN
HAINAN
CHINA SEA
STRAIT OF MALACCA
Lacadive Iˢ
Maldive Iˢ
G. of Cambay
G. of Cutch
Gulf of Manaar
Palks Strait
CALCUTTA
MADRAS
BOMBAY
Dehli
Agra
Lucknow
Benares
Patna
Hyderabad
Seringapatam
Bangalore
Pondichery
Tranquebar
Calicut
Cochin
C. Comorin
Colombo
Kandy
Chittagong
Rangoon
Martaban
Amarapura
Bangkok
Saigon
Hue
Canton
Lassa
Cabul
Attock
Lahore
Leh
Ladak
Cashmeer
Sirhind
Nagpoor
Surat
Poona
Goa
Mangalore
Tellicherry
Masulipatam
Rajamundry
Chicacole
Cuttack
Balasore
Mergui
Tavoy
Tenasserim
Pulo Pinang
Malacca
Singapore
Manangkabau
Saugor
Longitude East from Greenwich
70
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